

Service Manual

ORDER NO.
RRV2756

DVD PLAYER

DV-366-K

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).


Model	Type	Power Requirement	Region No.	Serial No. Confirm 3rd & 4th alphabetical letters.
DV-366-K	RDXU/RA	AC110-127V/220-240V	1	&&PG#####\$
DV-366-K	RDXJ/RBNC	AC110-127V/220-240V	2	&&MP#####\$

● This service manual should be used together with the following manual(s):

Model No.	Order No.	Remarks
DV-366-S/RRXU	RRV2755	


CONTRAST OF MISCELLANEOUS PARTS

NOTES :

- Parts marked by “ NSP ” are generally unavailable because they are not in our Master Spare Parts List.
- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Screw adjacent to ▼ mark on the product are used for disassembly.
- Reference Nos. indicate the pages and Nos. in the service manual for the base model.

■ CONTRAST TABLE for DV-366-K/RDXU/RA

DV-366-K/RDXU/RA and DV-366-S/RRXU are constructed the same except for the following:

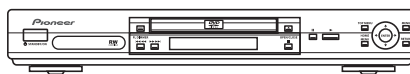
Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			DV-366-S/RRXU	DV-366-K/RDXU/RA	
P7 - 2		PACKING			
P7 - 8		Power Cable	XDG3009	Not used	
		Operating Instructions (Spanish / Portuguese)	VRD1170	Not used	
P7 -12		IRAM Caution	VRW1876	Not used	
P7 -17		Packing Case	VHG2305	VHG2307	
P7 -18	NSP	Accessory Box	VHC1102	Not used	
P7 -19		Paper Board	Not used	VHC1100	
		Warranty Card	Not used	ARY7025	
		EXTERIOR SECTION			
P9 -12		Rear Panel	VNA2545	VNA2548	
P9 -16		DVD V Plate	VAM1135	VAM1120	
P9 -17		Tray Panel	VNK5196	VNK5194	
P9 -18		Bonnet Case S	VXX2874	VXX2873	
P9 -19		Screw	BCZ40P060FNI	BCZ40P060FZK	
		FRONT PANEL SECTION			
P11 - 6		Front Panel Assy	VXA2566	VXA2572	
P11 - 7		Pioneer Name Plate	VAM1129	VAM1130	

■ CONTRAST TABLE for DV-366-K/RDXJ/RBNC

DV-366-K/RDXJ/RBNC and DV-366-S/RDXJ/RB are constructed the same except for the following:

Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			DV-366-S/RDXJ/RB	DV-366-K/RDXJ/RBNC	
P7 -17		PACKING			
		Packing Case	VHG2317	VHG2319	
		EXTERIOR SECTION			
P9 -12		Rear Panel	VNA2555	VNA2557	
P9 -16		DVD V Plate	VAM1135	VAM1120	
P9 -17		Tray Panel	VNK5224	VNK5231	
P9 -18		Bonnet Case S	VXX2878	VXX2877	
P9 -19		Screw	BCZ40P060FNI	BCZ40P060FZK	
		FRONT PANEL SECTION			
P11 - 6		Front Panel Assy	VXA2556	VXA2557	
P11 - 7		Pioneer Name Plate	VAM1129	XAM3006	

Service Manual



DV-366-S

ORDER NO.
RRV2755

DVD PLAYER

DV-366-S

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Region No.	Serial No. Confirm 3rd & 4th alphabetical letters.
DV-366-S	RRXU	AC110-127V/220-240V	4	&&PG#####\$
DV-366-S	RLXJ/NC	AC110-127V/220-240V	3	&&MP#####\$
DV-366-S	RDXJ/RB	AC110-127V/220-240V	2	&&MP#####\$
DV-366-S	BKXJ	AC110V/220V	3	&&MP#####\$
DV-366-S	LFXJ	AC110V	3	&&MP#####\$



For details, refer to "Important symbols for good services".

SAFETY INFORMATION



This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING !

THE AEL (ACCESSIBLE EMISSION LEVEL) OF THE LASER POWER OUTPUT IS LESS THAN CLASS 1 BUT THE LASER COMPONENT IS CAPABLE OF EMITTING RADIATION EXCEEDING THE LIMIT FOR CLASS 1.
A SPECIALLY INSTRUCTED PERSON SHOULD DO SERVICING OPERATION OF THE APPARATUS.

LASER DIODE CHARACTERISTICS

FOR DVD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 650 nm
FOR CD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 780 nm

LABEL CHECK

[RR, RL/NC and RD/RB types]

CAUTION : VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
VORSICHT : SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN!
ADVARSEL : SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING UND GÅ UDSÆTTELSE FOR STRÅLING.
VARNING : SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRÄKTA EJ STRÅLEN.
VARO! : AVATTAESSA ALTI TISTUT NÄKYVÄ JA NÄKYMÄTTÖMÄLLE LASERSATEIL YLLE. ÄLÄ KATSO SÄTEESÄ.
CUIDADO : RADIACIÓN LASER VISIBLE E INVISIBLE AL ESTAR ABIERTO. EVITAR EXPOSICIÓN AL RAYO.
VRW1872

[BK type]

CAUTION : VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
VORSICHT : SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN!
ADVARSEL : SYNLIG OG OSYNLIG LASERSTRÅLING VED ÅBNING UND GÅ UDSÆTTELSE FOR STRÅLING.
VARNING : SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRÄKTA EJ STRÅLEN.
VARO! : AVATTAESSA ALTI TISTUT NÄKYVÄ JA NÄKYMÄTTÖMÄLLE LASERSATEIL YLLE. ÄLÄ KATSO SÄTEESÄ.
주의 : 뚜껑을 열게 되면, 시각적으로 보이지 않는 레이저 광선과 보이는 광선이 방출되므로 광선의 방출에 쏘이지 않도록 주의할 것.
VRW1886

[LF type]

CAUTION : VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.

注意 : 若打開會發生可見和不可見的鐳射輻射，請勿受輻射。

VRW1961

Additional Laser Caution

1. Laser Interlock Mechanism

- Loading switch (S101 on the LOAB Assy) is used for interlock mechanism of the laser.

When this switch turned ON in SW2 (CLOSE) side (OPEN signal is 0V and CLOSE signal is 3.5V), a laser becomes the status which can completely oscillation.

Furthermore, the laser completely oscillates in the disc judgment and disc playback.

When player is power ON state and laser diode is not completely oscillating, 780nm laser diode is always oscillating by half power.

- Laser diode is driving with Q201 (650nm LD) and Q211 (780nm LD) on the DVDM Assy.

Therefore, when short-circuit between the emitter and collector of these transistors or the base voltage is supplied for transistors turn on, the laser oscillates. (failure mode)

- In the test mode *, there is the mode that the laser oscillates except for the disc judgment and playback. LD ON mode in the test mode oscillates with the laser forcibly.

The interlock mechanism mentioned above becomes invalid in this mode.

2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.

* : See page 48.

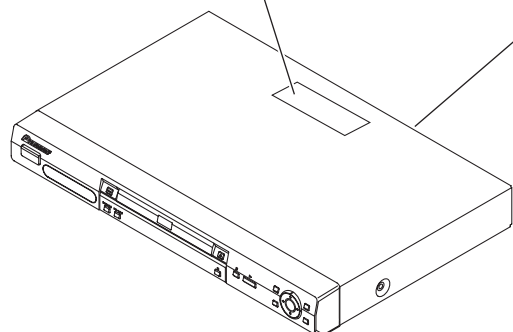
(Printed on the Rear Panel)

[RR type]

CLASS 1
LASER PRODUCT
PRODUCTO LASER CLASE1

[RL/NC, RD/RB and LF types]

CLASS 1
LASER PRODUCT



[Important symbols for good services]

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety



You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments



To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning



For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws



To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts





Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

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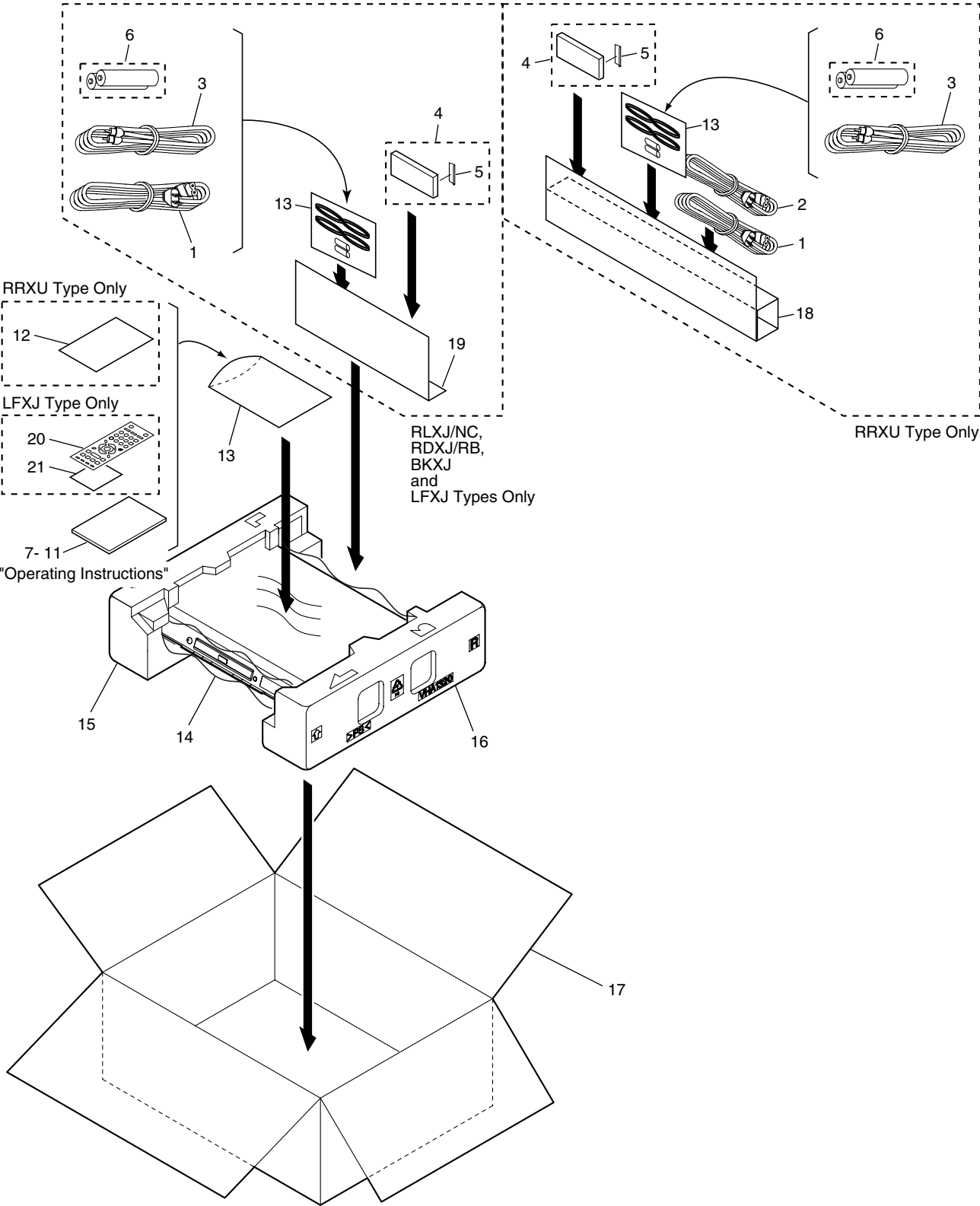
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2. EXPLODED VIEWS AND PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Screws adjacent to  mark on product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

2.1 PACKING



PACKING parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
⚠ 1	Power Cable	See Contrast table (2)	11	Operating Instructions (Korean)	See Contrast table (2)
⚠ 2	Power Cable	See Contrast table (2)	12	IRAM Caution	See Contrast table (2)
3	Audio / Video Cable	See Contrast table (2)	13	Polyethylene Bag	VHL1051
4	Remote Control	VXX2865	14	Sheet	Z23-007
5	Battery Cover	VNK4997	15	Pad L	See Contrast table (2)
NSP 6	AA/R6P Dry Cell Batteries	See Contrast table (2)	16	Pad R	See Contrast table (2)
7	Operating Instructions (English)	See Contrast table (2)	17	Packing Case	See Contrast table (2)
8	Operating Instructions (Spanish / Portuguese)	See Contrast table (2)	18	Accessory Box	See Contrast table (2)
9	Operating Instructions (Trad-Chinese)	See Contrast table (2)	19	Paper Board	See Contrast table (2)
10	Operating Instructions (Arabic)	See Contrast table (2)	20	Remote Control Overlay	See Contrast table (2)
			NSP 21	Label	See Contrast table (2)

(2) CONTRAST TABLE

DV-366-S/RRXU, RLXJ/NC, RDXJ/RB, BKXJ and LFXJ are constructed the same except for the following :

Mark	No.	Symbol and Description	DV-366-S/RRXU	DV-366-S/RLXJ/NC	DV-366-S/RDXJ/RB	DV-366-S/BKXJ	DV-366-S/LFXJ
⚠	1	Power Cable	ADG1158	ADG1154	ADG1158	DDG1086	ADG1158
⚠	2	Power Cable	XDG3009	Not used	Not used	Not used	Not used
	3	Audio / Video Cable	VDE1077	XDE3049	XDE3049	XDE3049	XDE3049
NSP	6	AA/R6P Dry Cell Batteries	VEM1030	VEM1031	VEM1031	VEM1031	VEM1031
	7	Operating Instructions (English)	VRB1308	VRB1308	VRB1308	Not used	VRB1308
	8	Operating Instructions (Spanish / Portuguese)	VRD1170	Not used	Not used	Not used	Not used
	9	Operating Instructions (Trad-Chinese)	Not used	VRC1176	Not used	Not used	VRC1176
	10	Operating Instructions (Arabic)	Not used	Not used	VRC1177	Not used	Not used
	11	Operating Instructions (Korean)	Not used	Not used	Not used	VRC1175	Not used
	12	IRAM Caution	VRW1876	Not used	Not used	Not used	Not used
	15	Pad L	VHA1319	VHA1323	VHA1323	VHA1323	VHA1323
	16	Pad R	VHA1320	VHA1324	VHA1324	VHA1324	VHA1324
	17	Packing Case	VHG2305	VHG2316	VHG2317	VHG2303	VHG2318
	18	Accessory Box	VHC1102	Not used	Not used	Not used	Not used
	19	Paper Board	Not used	VHC1105	VHC1105	VHC1105	VHC1105
	20	Remote Control Overlay	Not used	Not used	Not used	Not used	VEC2341
NSP	21	Label	Not used	Not used	Not used	Not used	VRW1957

2.2 EXTERIOR SECTION

A

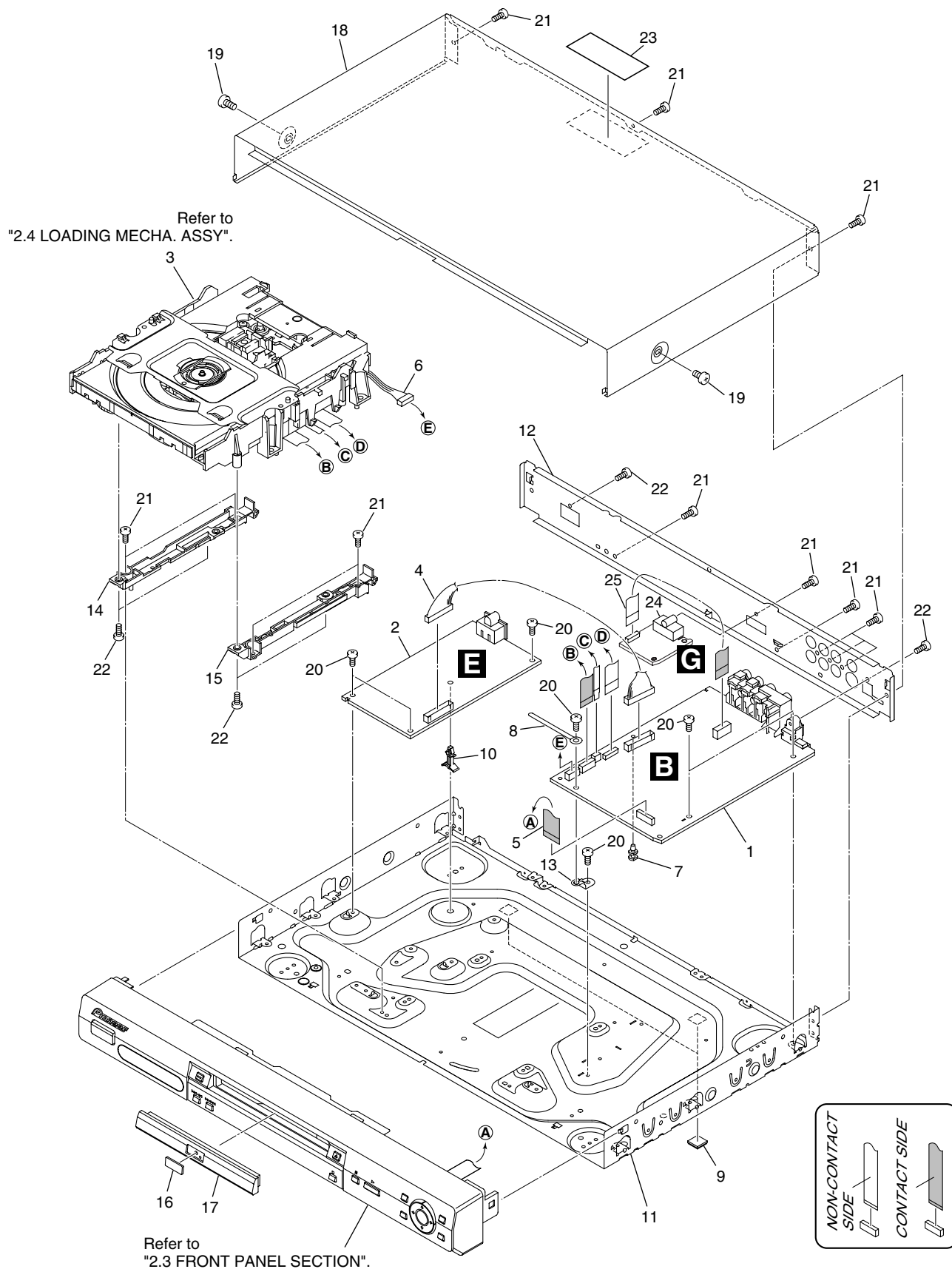
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EXTERIOR SECTION parts List

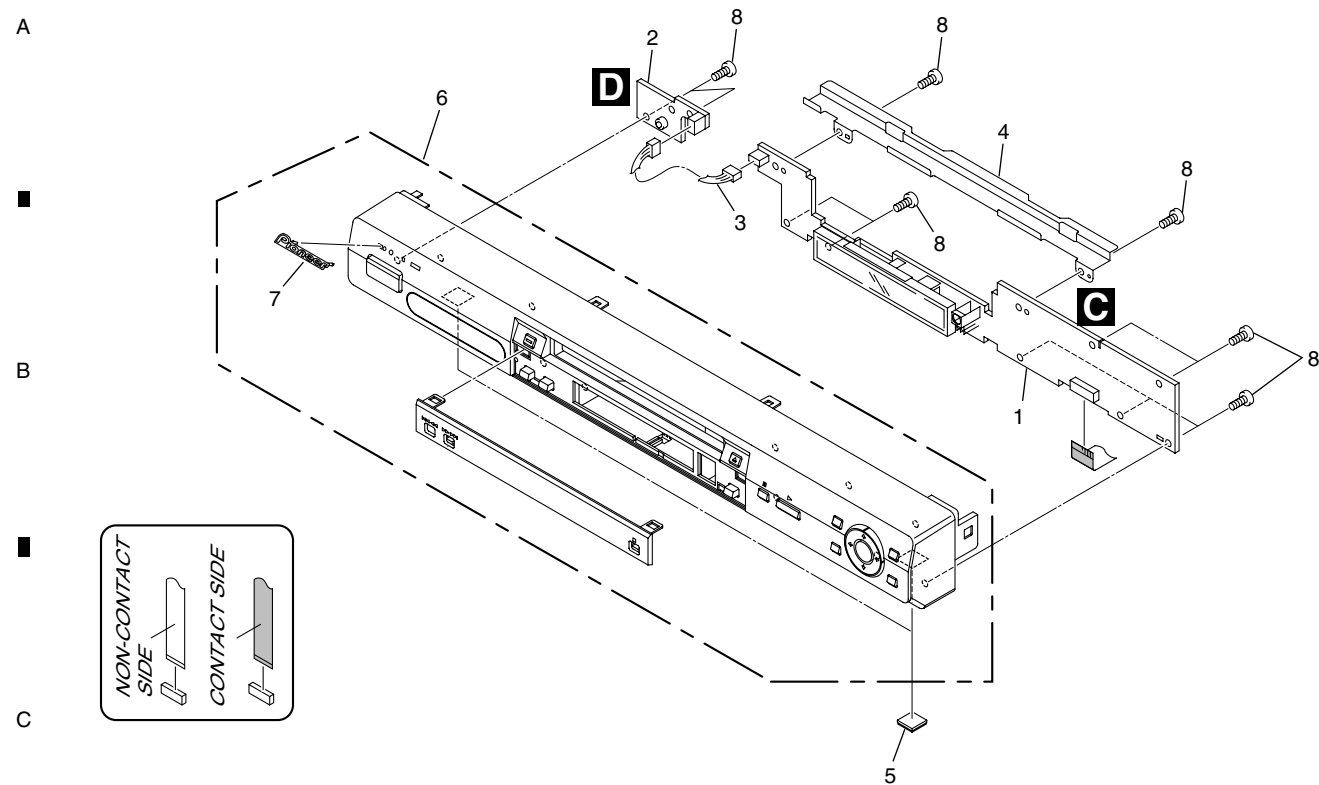
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	DVDM Assy	See Contrast table (2)	14	Adapter 3L	See Contrast table (2)
⚠ 2	POWER SUPPLY Unit	VWR1366 (or VWR1368)	15	Adapter 3R	See Contrast table (2)
NSP 3	Loading Mecha. Assy	VWT1207	16	DVD V Plate	VAM1135
4	Connector Assy	PF13PP-D27	17	Tray Panel	See Contrast table (2)
5	Flexible Cable (15P)	See Contrast table (2)	18	Bonnet Case S	See Contrast table (2)
6	Connector Assy (5P)	See Contrast table (2)	19	Screw	BCZ40P060FNI
NSP 7	PCB Spacer (3X6)	AEC7156	20	Screw	BBZ30P060FMC
8	Cord Clamper	RNH-184	21	Screw	BBZ30P080FZK
9	Rubber Foot	VEB1349	22	Screw	PPZ30P080FMC
10	PCB Support	VEC2184	23	Label	See Contrast table (2)
NSP 11	Base Chassis	See Contrast table (2)	NSP 24	DOUT Assy	See Contrast table (2)
12	Rear Panel	See Contrast table (2)	25	Flexible Cable (09P)	See Contrast table (2)
13	PCB Base	See Contrast table (2)			

(2) CONTRAST TABLE

DV-366-S/RRXU, RLXJ/NC, RDXJ/RB, BKXJ and LFXJ are constructed the same except for the following :

Mark	No.	Symbol and Description	DV-366-S/RRXU	DV-366-S/RLXJ/ NC	DV-366-S/RDXJ/ RB	DV-366-S/BKXJ	DV-366-S/LFXJ
NSP	1	DVDM Assy	VWS1555	VWS1555	VWS1555	VWS1555	VWS1554
	5	Flexible Cable (15P)	VDA1963	VDA1964	VDA1964	VDA1964	VDA1964
	6	Connector Assy (5P)	VKP2301	VKP2304	VKP2304	VKP2304	VKP2304
	11	Base Chassis	VNA2614	VNA2584	VNA2584	VNA2584	VNA2584
	12	Rear Panel	VNA2545	VNA2556	VNA2555	VNA2595	VNA2554
NSP	13	PCB Base	VNE2278	VNE2277	VNE2277	VNE2277	VNE2277
	14	Adapter 3L	VNL1960	VNL1958	VNL1958	VNL1958	VNL1958
	15	Adapter 3R	VNL1961	VNL1959	VNL1959	VNL1959	VNL1959
	17	Tray Panel	VNK5196	VNK5224	VNK5224	VNK5224	VNK5224
	18	Bonnet Case S	VXX2874	VXX2878	VXX2878	VXX2878	VXX2878
	23	Label	VRW1872	VRW1872	VRW1872	VRW1886	VRW1961
	24	DOUT Assy	Not used	Not used	Not used	Not used	VWV1937
	25	Flexible Cable (09P)	Not used	Not used	Not used	Not used	VDA1954

2.3 FRONT PANEL SECTION



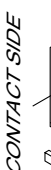
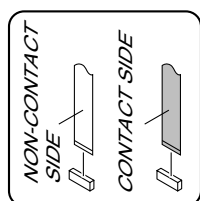
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FRONT PANEL SECTION parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	FLKY Assy	See Contrast table (2)	6	Front Panel Assy	See Contrast table (2)
NSP 2	PWSB Assy	VWG2424	7	Pioneer Name Plate	VAM1129
3	Connector Assy	PF03PP-B07	8	Screw	PPZ30P080FMC
4	FP Angle	See Contrast table (2)			
5	Rubber Foot	VEB1349			

(2) CONTRAST TABLE

DV-366-S/RRXU, RLXJ/NC, RDXJ/RB, BKXJ and LFXJ are constructed the same except for the following :

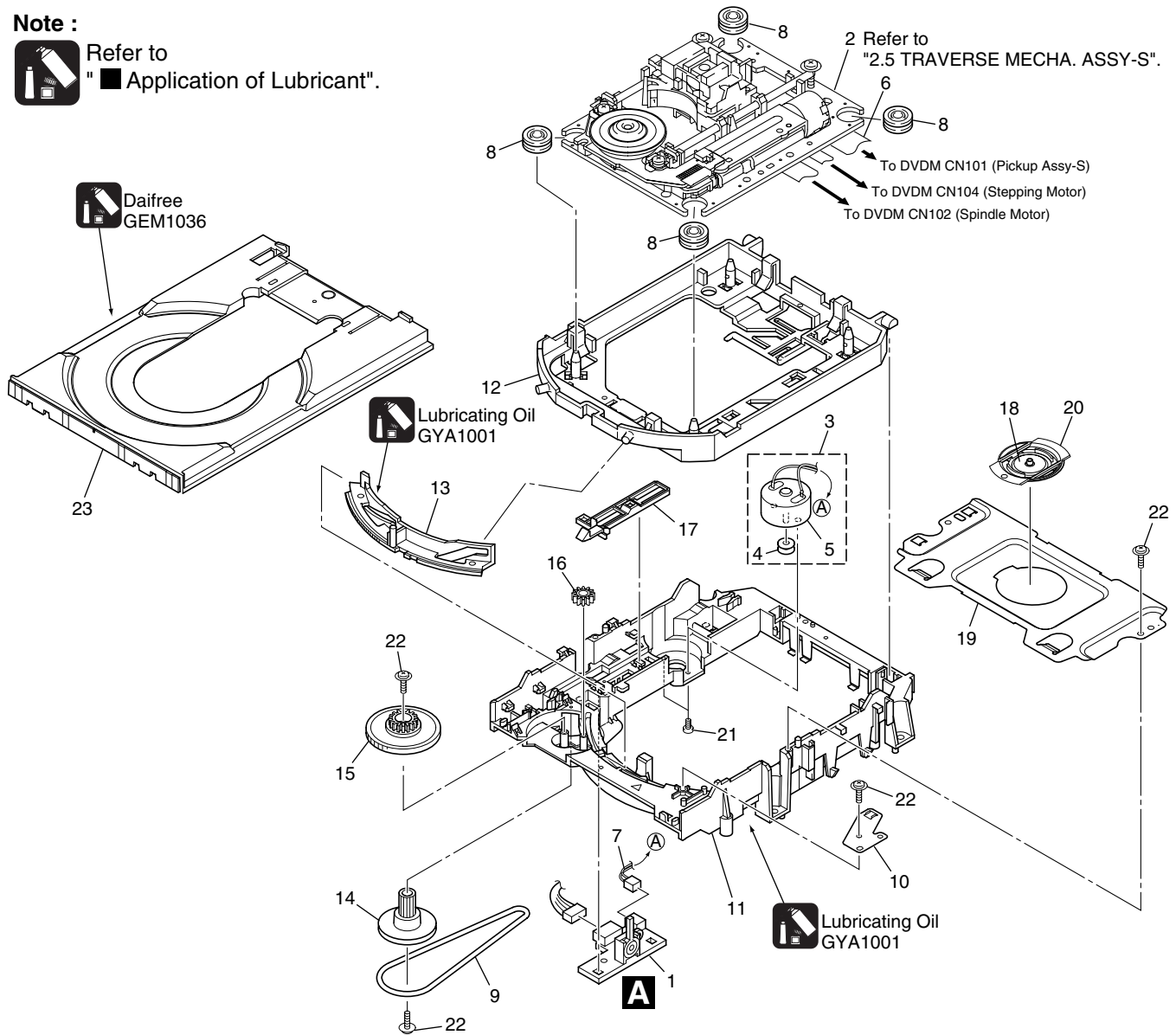
Mark	No.	Symbol and Description	DV-366-S/RRXU	DV-366-S/RLXJ/ NC	DV-366-S/RDXJ/ RB	DV-366-S/BKXJ	DV-366-S/LFXJ
	1	FLKY Assy	VWG2420	VWG2420	VWG2420	VWG2420	VWG2421
	4	FP Angle	VNE2300	VNE2304	VNE2304	VNE2304	VNE2304
	6	Front Panel Assy	VXA2566	VXA2556	VXA2556	VXA2556	VXA2556

2.4 LOADING MECHA ASSY

Note :



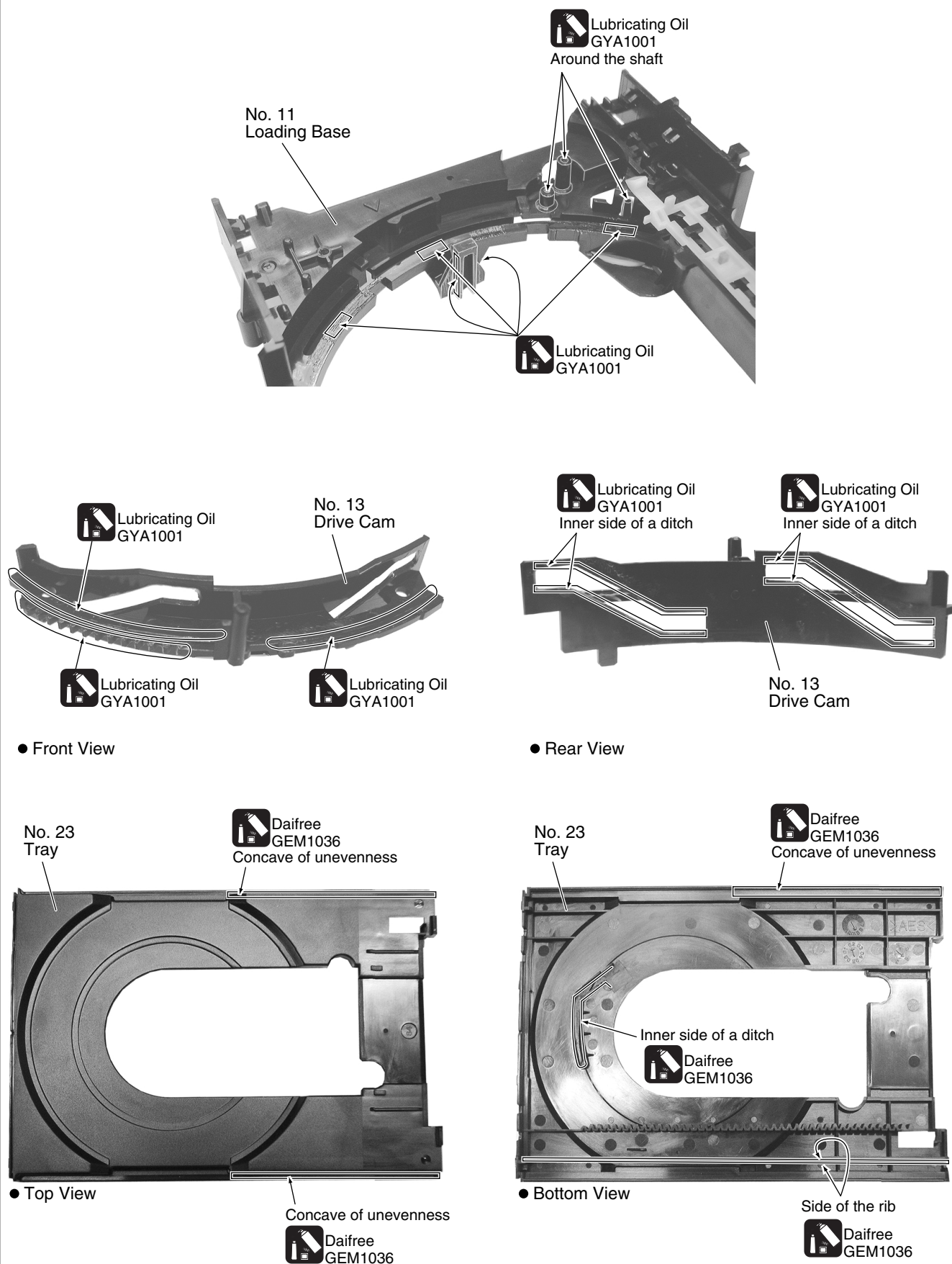
Refer to
"Application of Lubricant".



LOADING MECHA ASSY parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	LOAB Assy	VWG2426	17	SW Lever	VNL1925
2	Traverse Mecha. Assy-S	VXX2871	18	Clamper Plate	VNE2251
3	Loading Motor Assy	VXX2872	19	Bridge	VNE2252
4	Motor Pulley	PNW1634	20	Clamper	VNL1924
5	Motor	VXM1105			
6	Flexible Cable (24P)	VDA1945	21	Screw	JGZ17P028FMC
7	Connector Assy 2P	VKP2253	22	Screw	Z39-019
8	Floating Rubber	VEB1351	23	Tray	VNL1920
9	Belt	VEB1330			
10	Stabilizer	VNE2253			
11	Loading Base	VNL1917			
12	Float Base DVD	VNL1918			
13	Drive Cam	VNL1919			
14	Gear Pulley	VNL1921			
15	Loading Gear	VNL1922			
16	Drive Gear	VNL1923			

Application of Lubricant



2.5 TRAVERSE MECHA ASSY-S

A

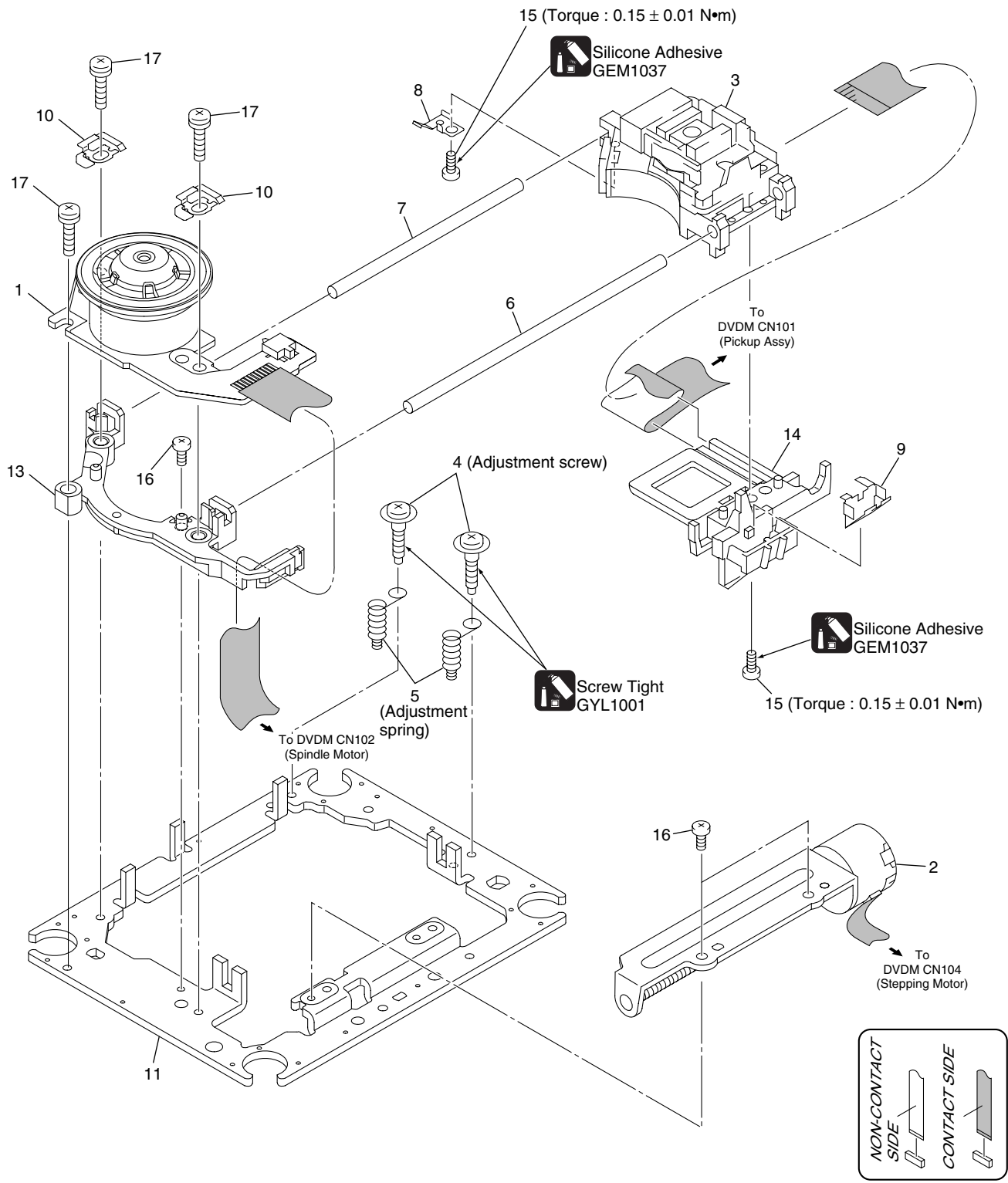
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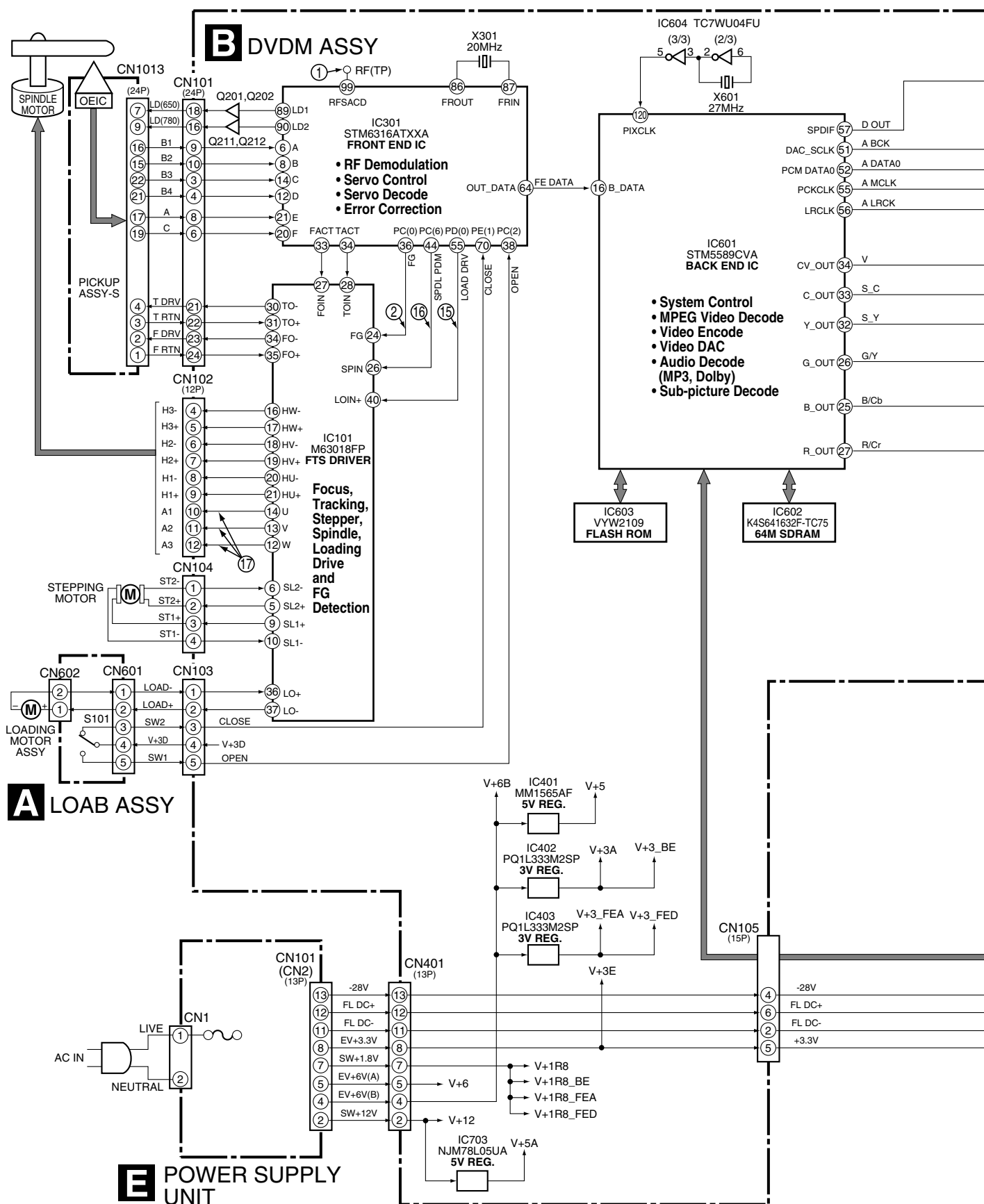


TRaverse MECHA ASSY-S parts List

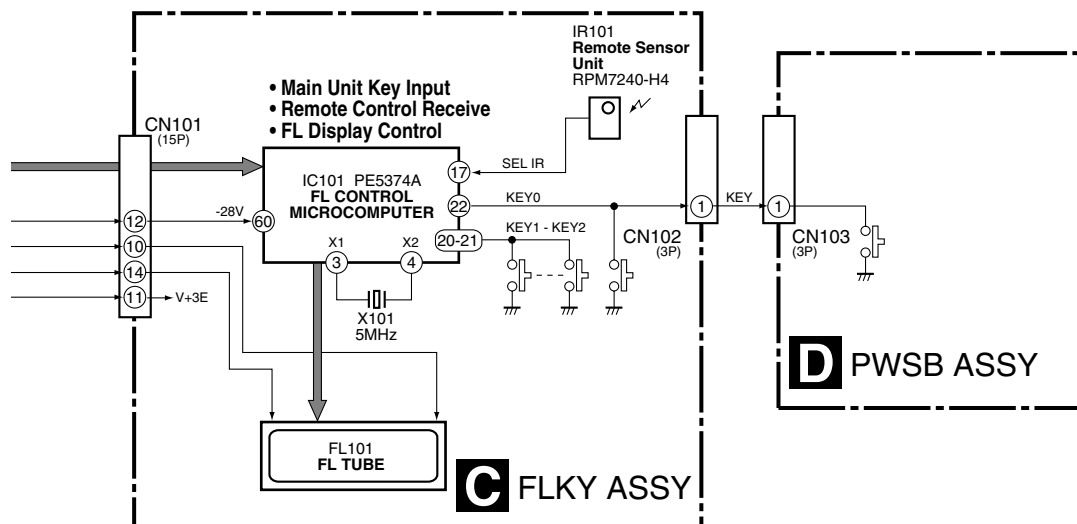
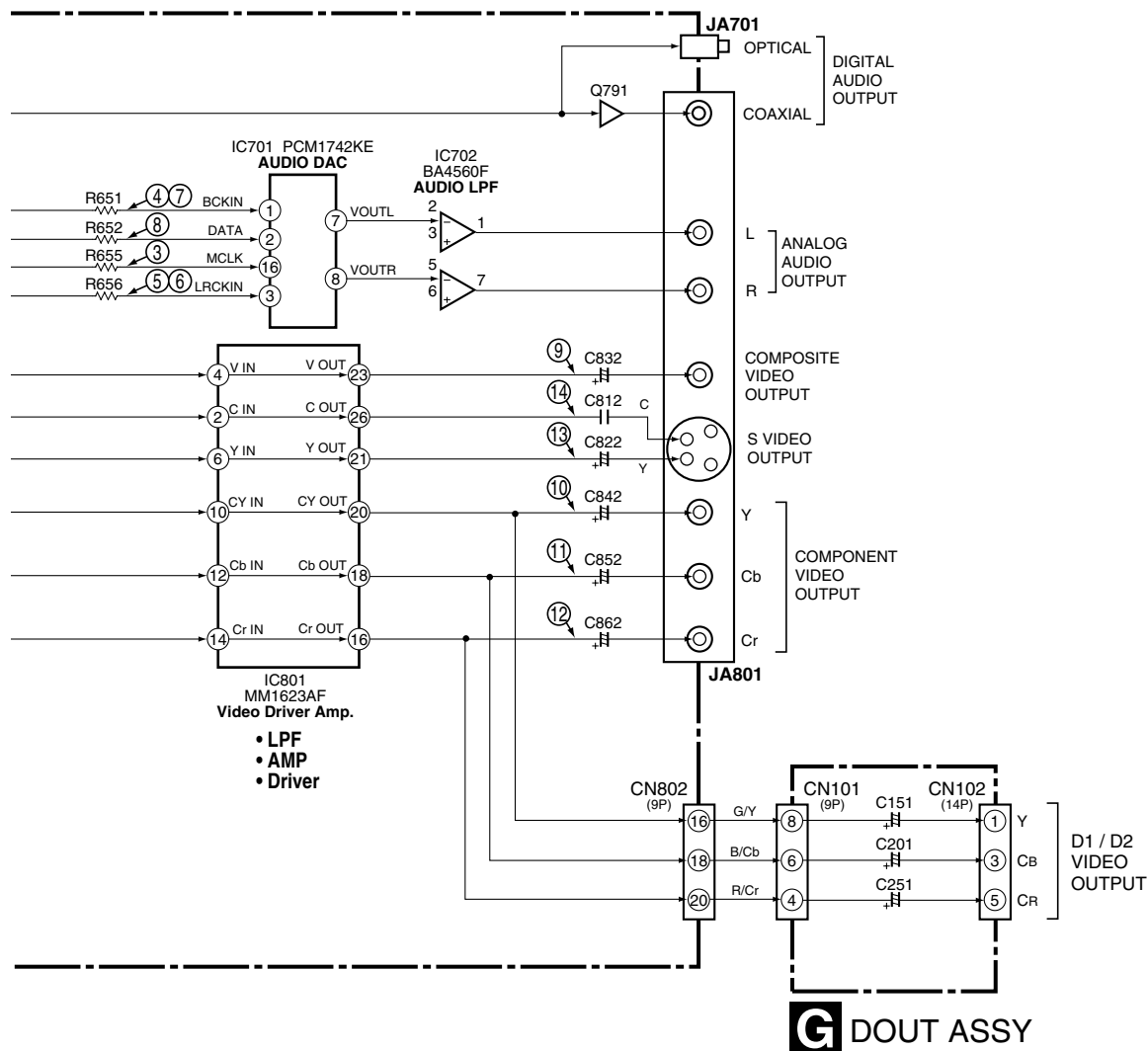
Mark No.	Description	Part No.
1	Spindle Motor	VXM1099
2	Stepping Motor	VXM1101
3	Pickup Assy-S	OXX8005
4	Skew Screw	VBA1080
5	Skew Spring	VBH1335
6	Guide Bar	VLL1514
7	Sub Guide Bar	VLL1515
8	Leaf Spring	VNC1023
9	Joint Spring	VNC1019
10	Support Spring	VNC1020
NSP 11	Mecha.Chassis	VNE2248
12	•••••	
13	Spacer	VNL1913
14	Joint 03	VNL1949
15	Tapping Screw	OBA8016
16	Screw	BBZ20P050FZK
17	Screw	PMA26P100FMC

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM



①—⑰: Refer to "3.2 WAVEFORMS".

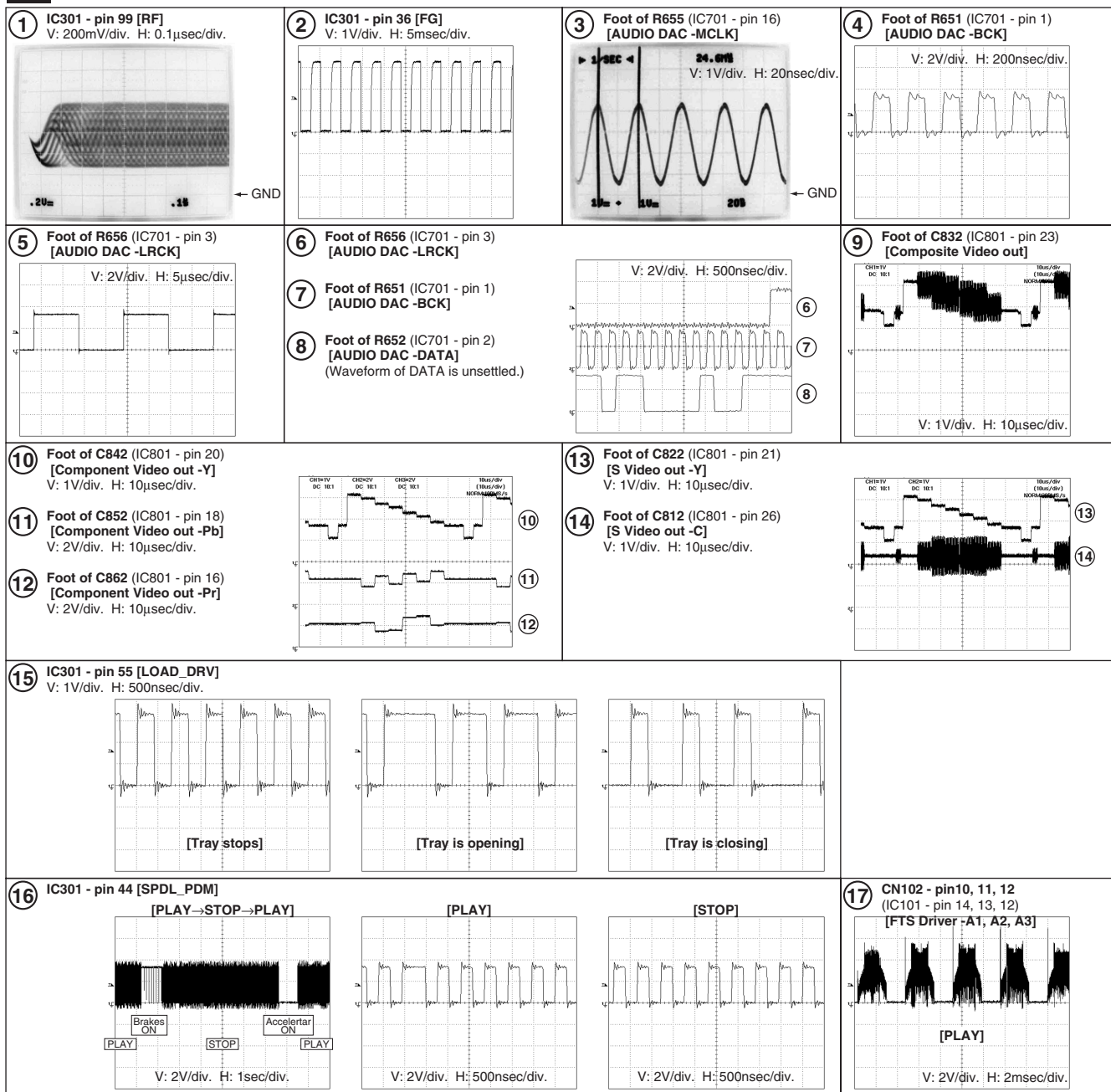


3.2 WAVEFORMS

Note : The encircled numbers denote measuring point in the schematic diagram.

Measurement condition : No. 1 to 2 and 9 to 14 : reference A1 (DVD), T2-chp 19, Color-bar
No. 3 to 8 : reference A1 (DVD), T2-chp 1

B DVDM ASSY





5



6



7



8



A



B



C



D



E



F



5



6

DV-366-S



7

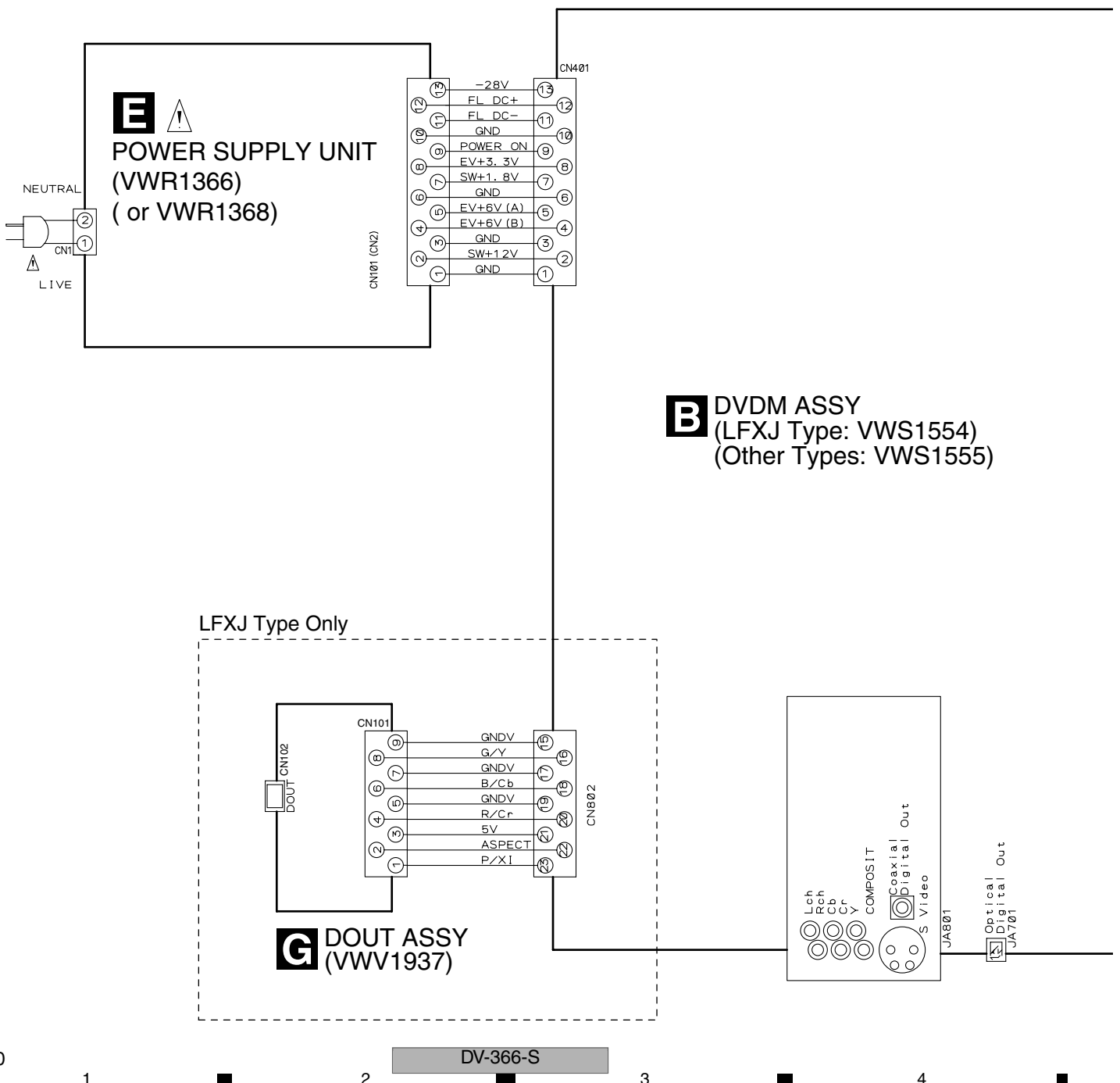


8



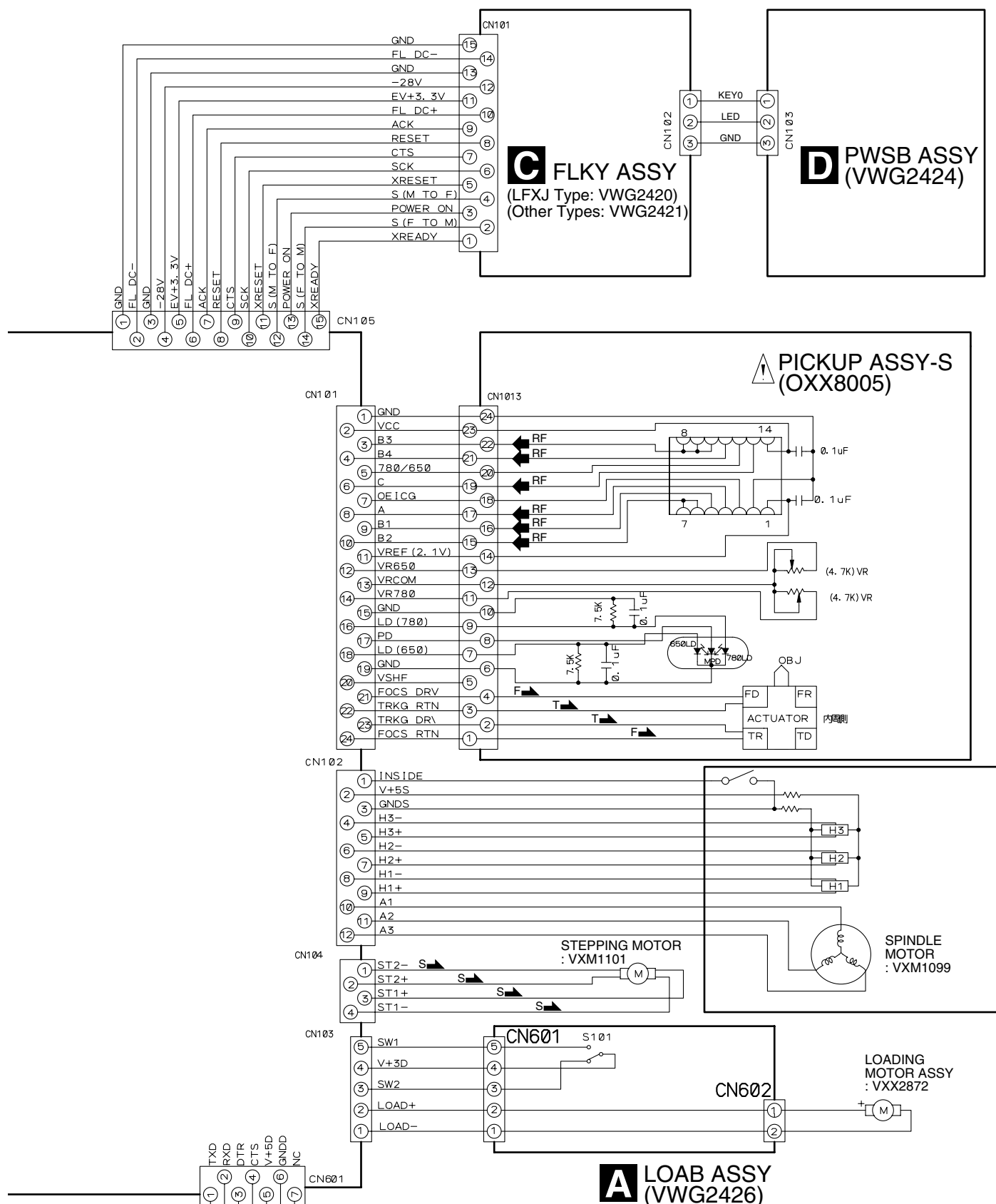
3.3 LOAB ASSY and OVERALL WIRING DIAGRAM

Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".

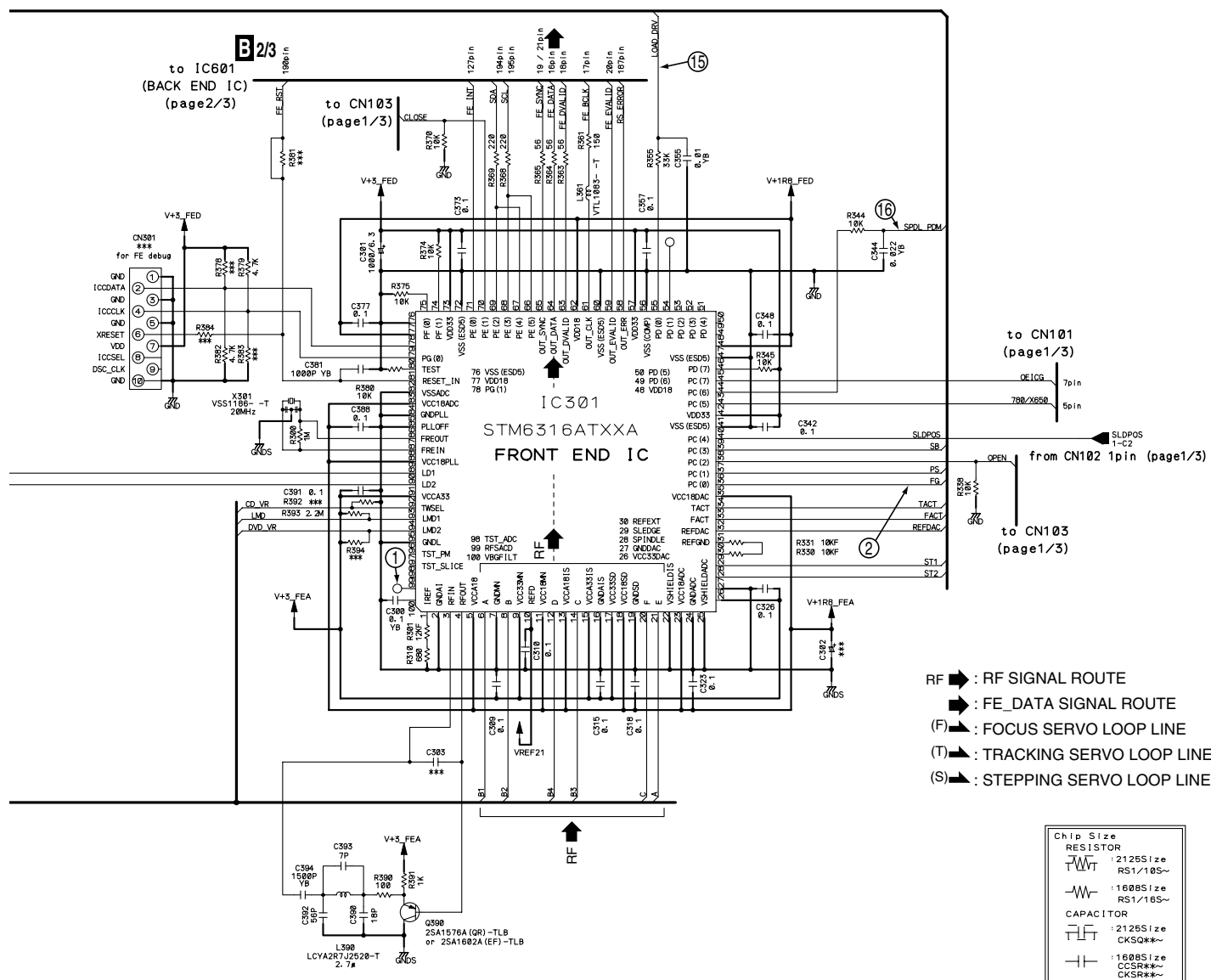


RF ➡ : RF SIGNAL ROUTE

(F) : FOCUS SERVO LOOP LINE
 (T) : TRACKING SERVO LOOP LINE
 (S) : STEPPING SERVO LOOP LINE



①, ②, ⑮-⑰: Refer to "3.2 WAVEFORMS".

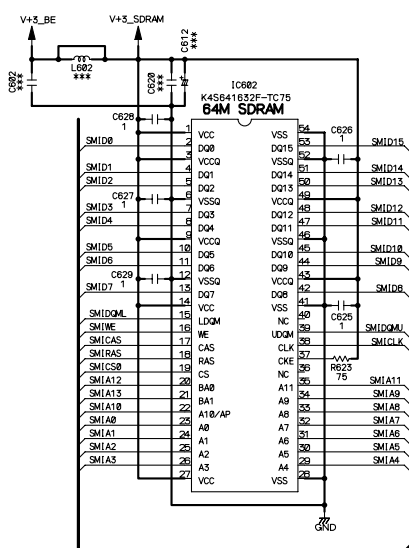
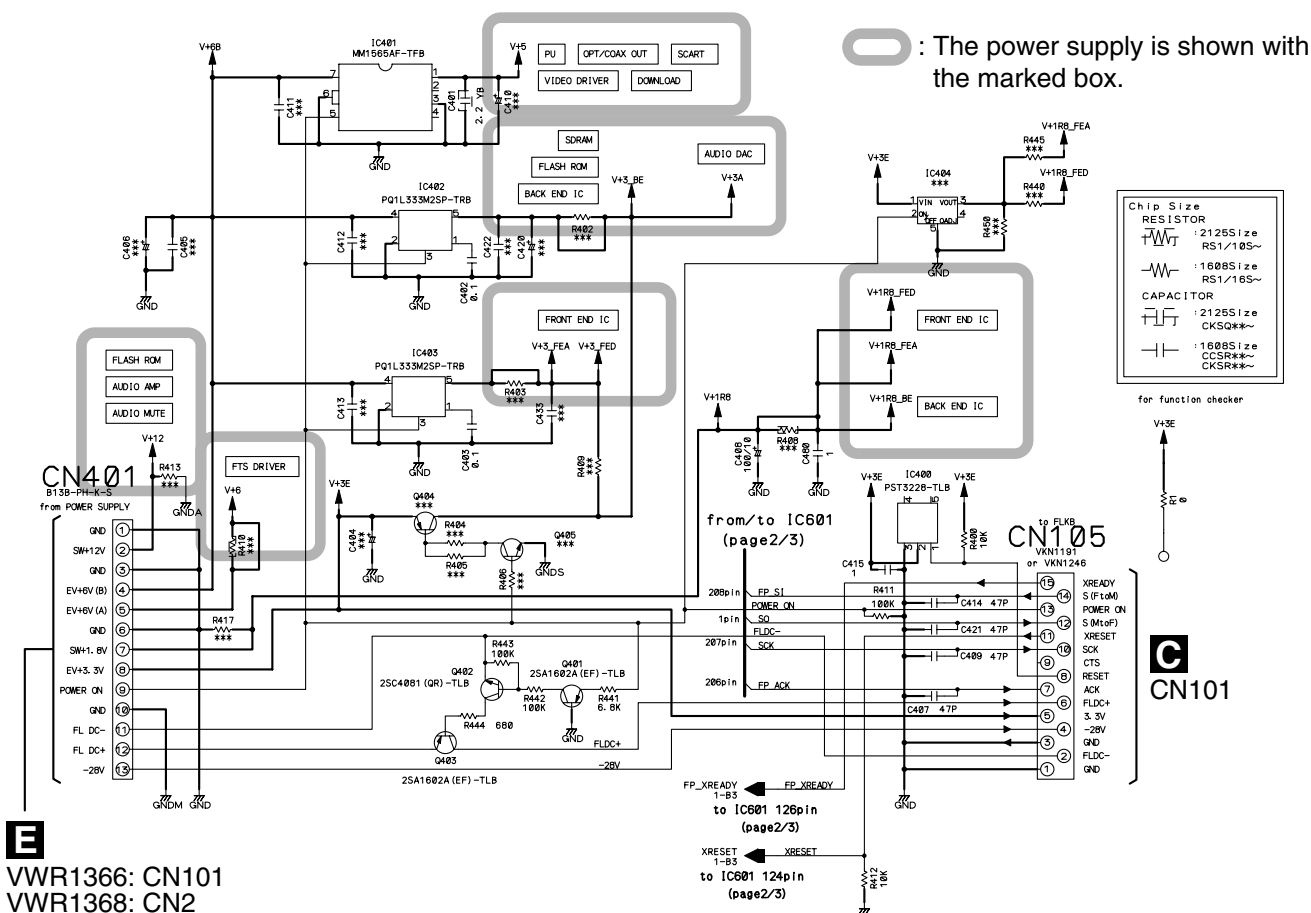


***: parts not mounted

B 1/3

B 2/3 DVDM ASSY
(LFXJ Type: VWS1554)
(Other Types: VWS1555) CPUA16





➡ : FE_DATA SIGNAL ROUTE

V ➡ : V SIGNAL ROUTE

S-C ➡ : S-VIDEO OUT C SIGNAL ROUTE

S-Y ➡ : S-VIDEO OUT Y SIGNAL ROUTE

R/Cr ➡ : R/Cr SIGNAL ROUTE

G/Y ➡ : G/Y SIGNAL ROUTE

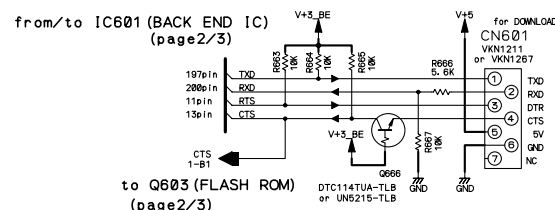
B/Cb ➡ : B/Cb SIGNAL ROUTE

⇨ : AUDIO SIGNAL ROUTE

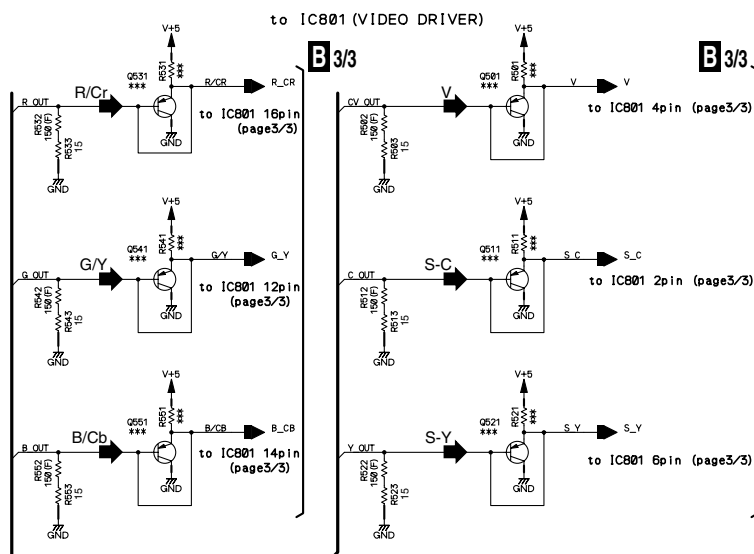
D ⇨ : AUDIO(DIGITAL) SIGNAL ROUTE

***: parts not mounted

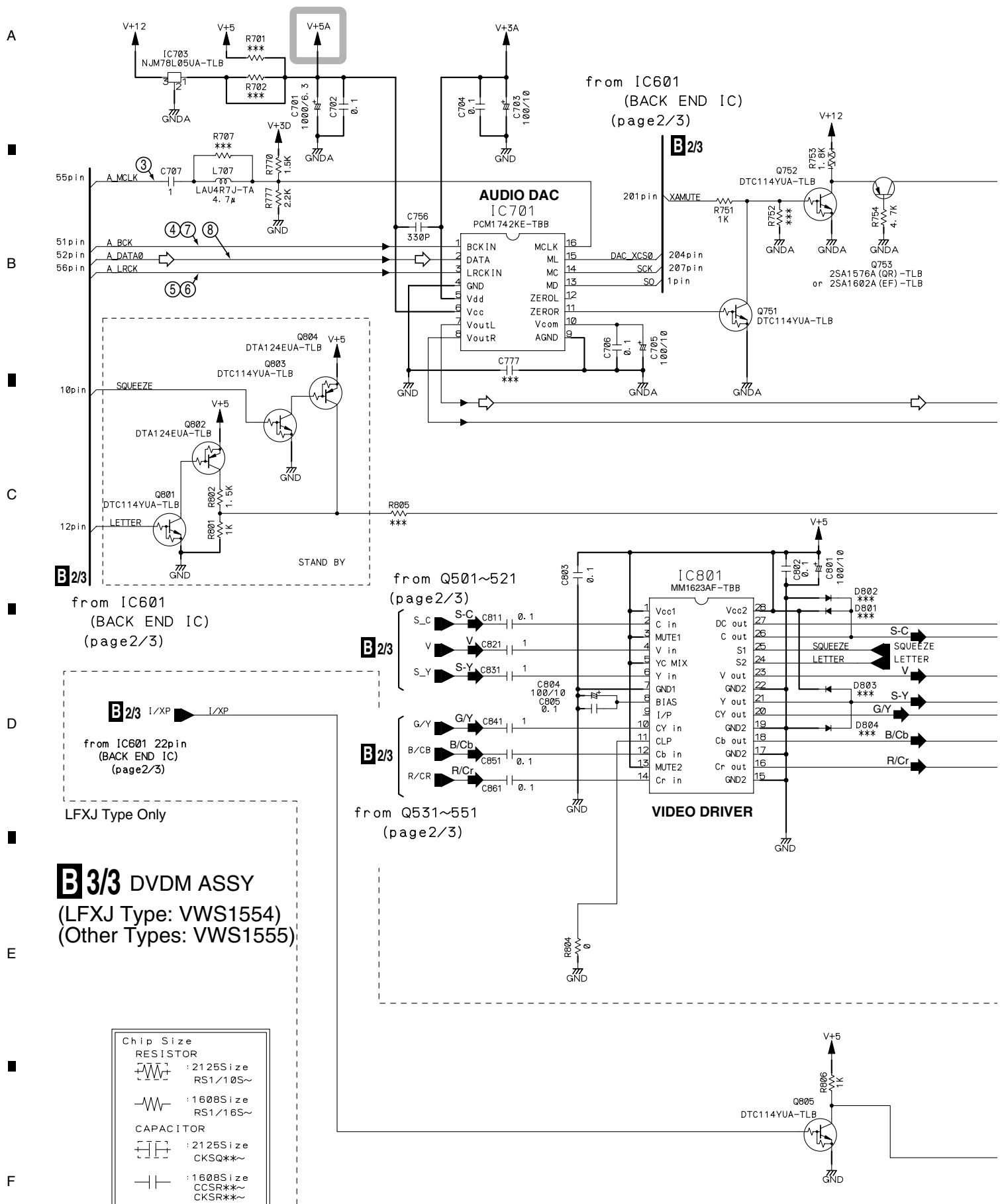
from/to IC601 (BACK END IC)
(page2/3)



to IC801 (VIDEO DRIVER)



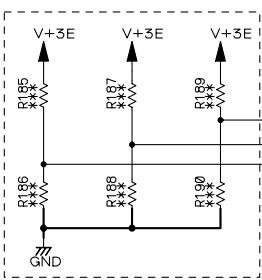
3.6 DVDM ASSY 3/3 [AUDIO/VIDEO BLOCK]



B 3/3

3.7 FLKY and PWSB ASSYS

A



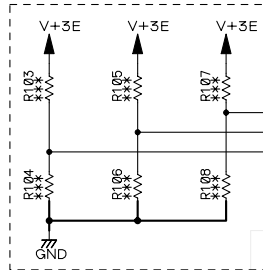
Note3

Note2

S101	O			S110	O			R151	1.2k			R162	12k		
S102	O			S111	O			R152	0			R163	6.8k		
S103	O			S112	O			R153	2.2k			R164	3.9k		
S104	O			S113	O			R154	x			R165	2.7k		
S105	O			S114	O			R155	3.9k			R166	2.2k		
S106	O			S115	O			R156	2.7k			R167	1.2k		
S107	O			S116	O			R158	2.2k			R168	0		
S108	x			S117	O			R159	1.2k			R169	3.9k		
S109	O			S118	O			R160	0			R170	2.7k		
				S119	x			R161	x						

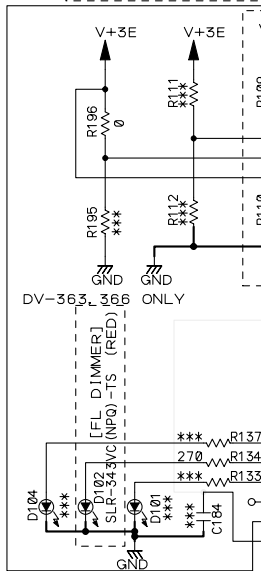
C FLKY ASSY
(LFXJ Type: VWG2420)
(Other Types: VWG2421)

B



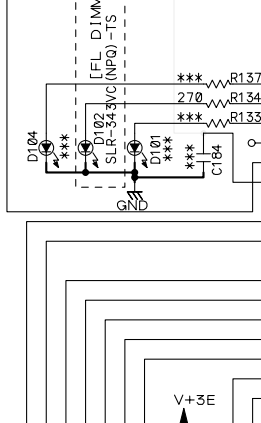
Note1

C

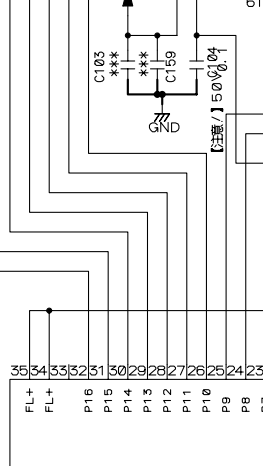


Note2

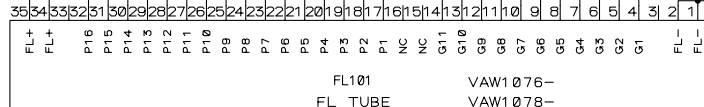
D



E



F




Note3

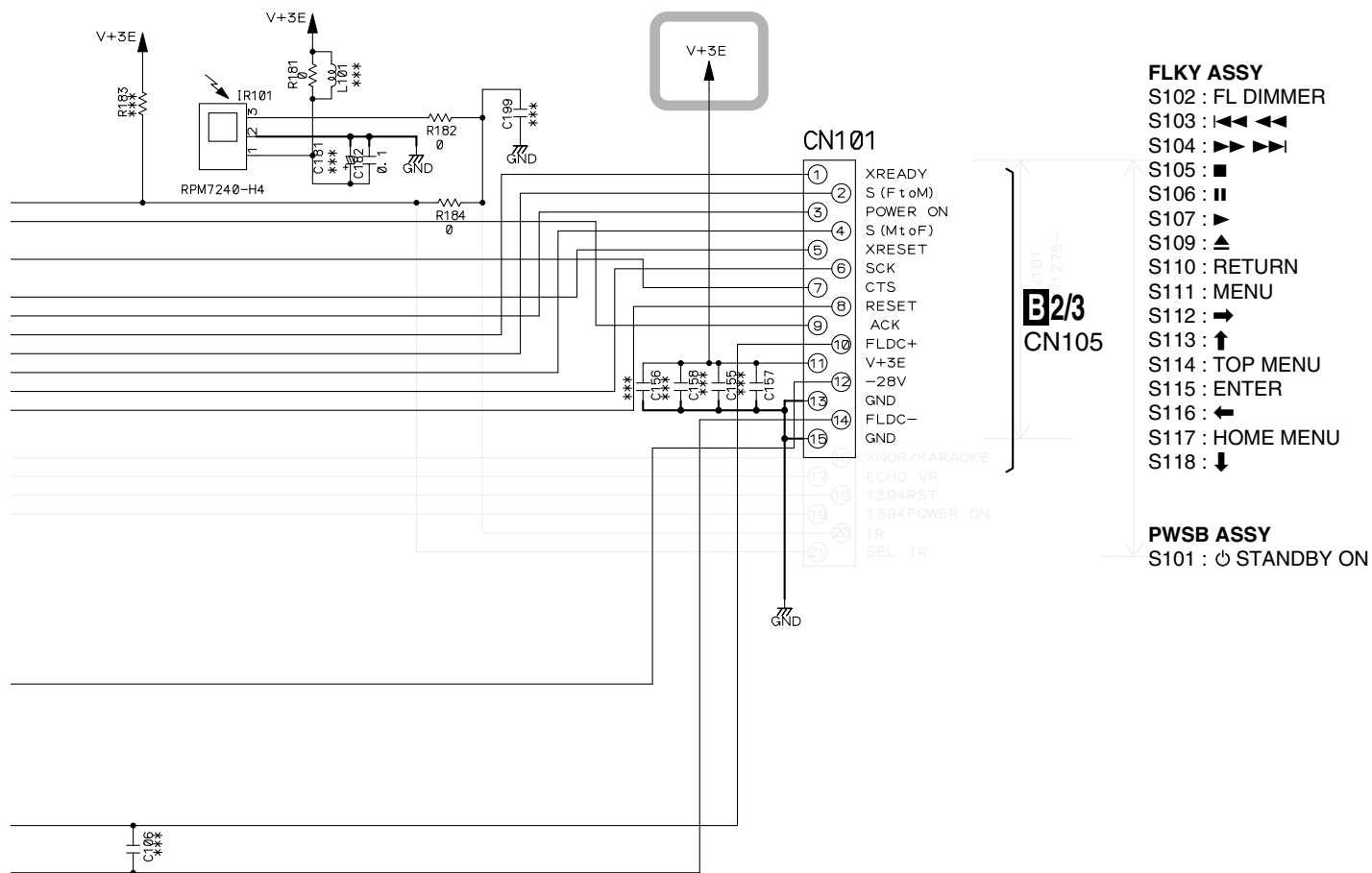
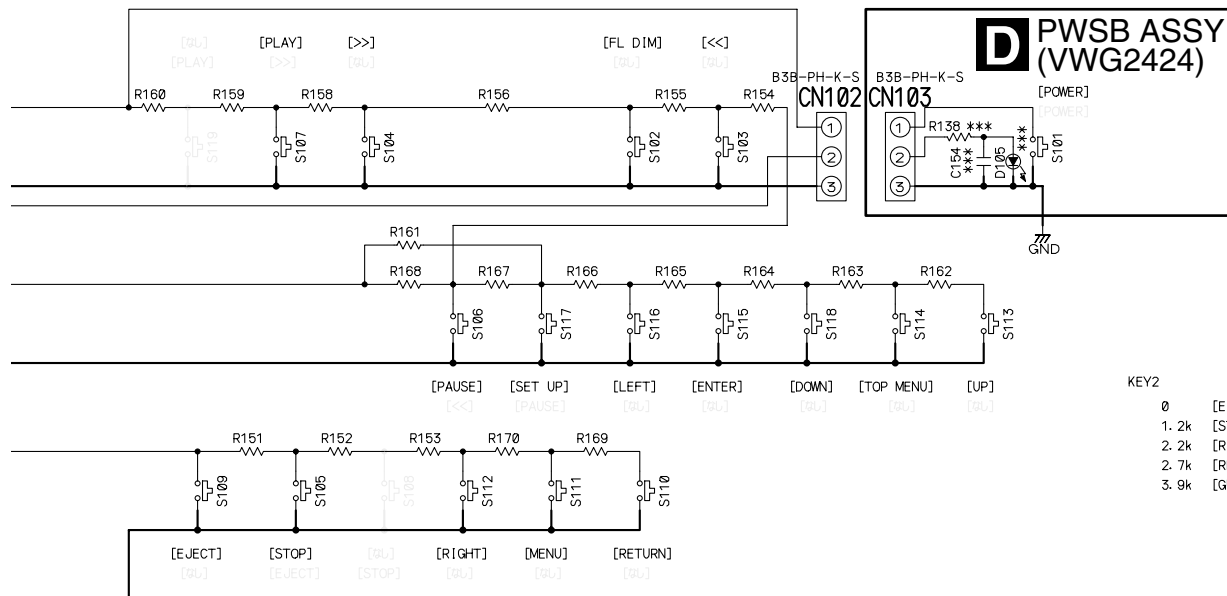
REF	DE/DO	EN/VO	GE/RA	LFXJ	Others	
R185	○	×	×	×	○	×
R187	×	×	×	○	○	○
R189	×	○	×	○	×	×
R186	×	○	○	○	×	○
R188	○	○	○	×	×	×
R190	○	×	○	×	○	○

Note1

Part	Part description
R103	O
R104	x
R105	x
R106	O
R107	x
R108	O
R109	x
R110	O
R111	x
R112	O

: The power supply is shown with the marked box.

ALL TACT SWITCHES = ASG7013- -T

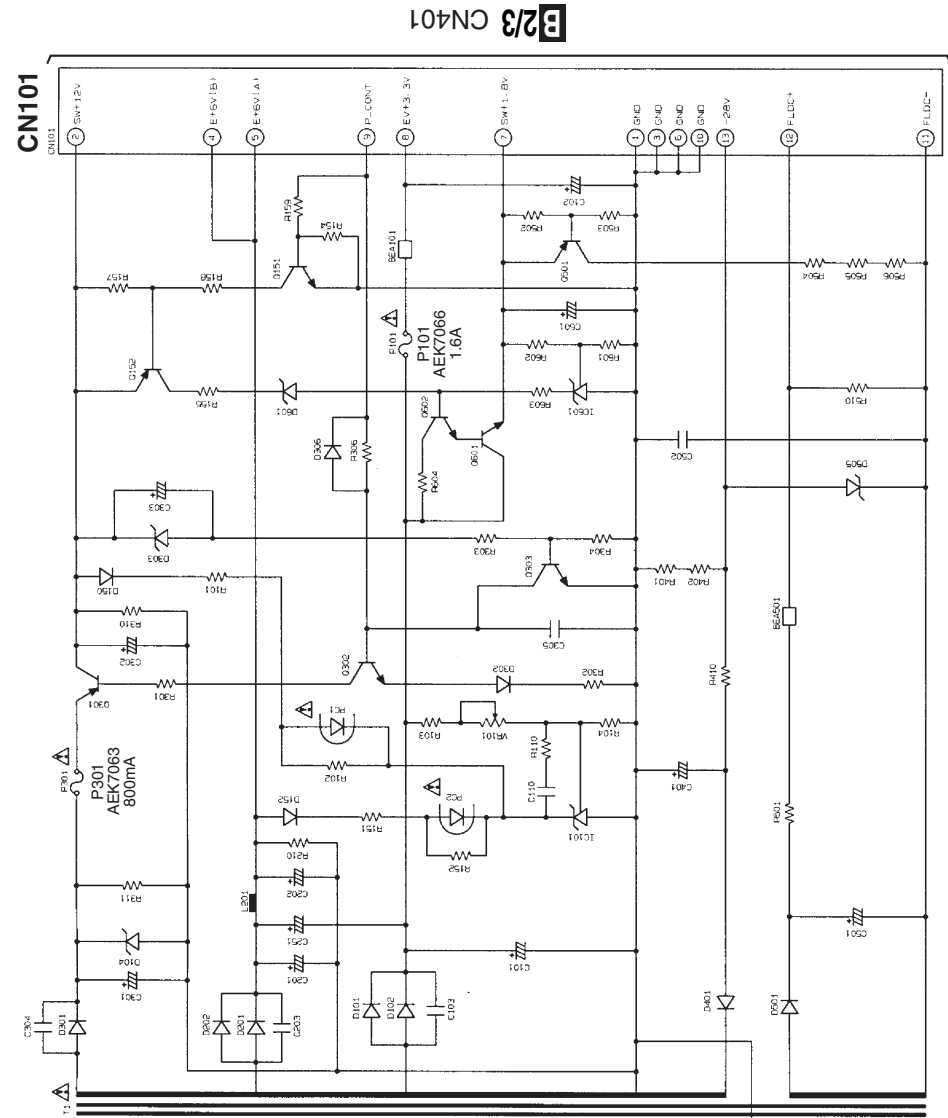
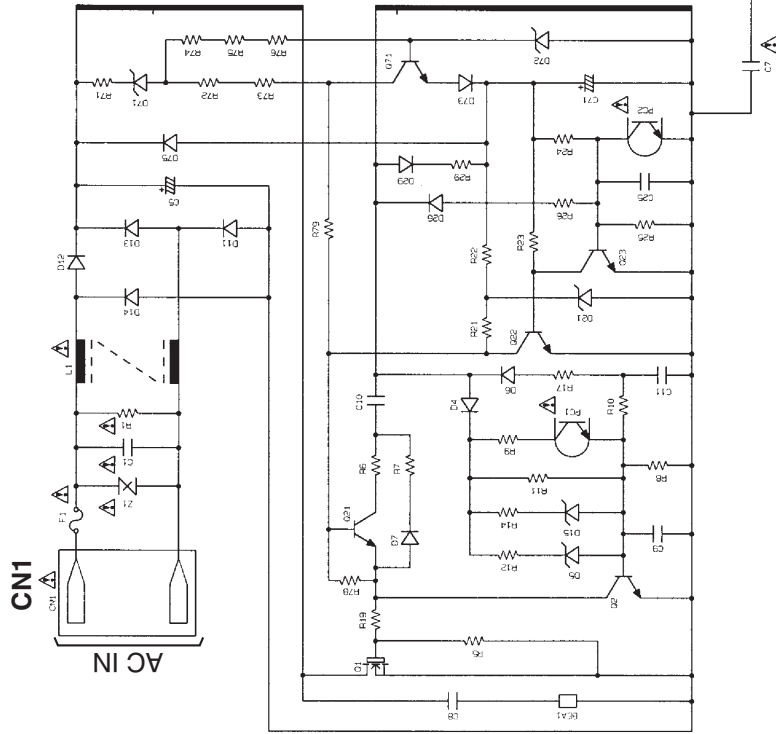


NOTE OF SPARE PARTS IN POWER SUPPLY (SYPS) UNIT

- In case of repairing, use the described parts only to prevent an accident.
- Please write the red ✓ mark on the board when the primary section of POWER SUPPLY (SYPS) Unit is repaired.
- Please take care to keep the space, not touching other parts when replacing the parts.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE:
REPLACE ONLY WITH SAME TYPE NO. 491.800 MFD, BY
LITTELFUSE INC. FOR P301 (AEK7063).

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE:
REPLACE ONLY WITH SAME TYPE NO. 49101.6 MFD, BY
LITTELFUSE INC. FOR P101 (AEK7066).



NOTE FOR FUSE REPLACEMENT

CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.

3.8 POWER SUPPLY UNIT [VWR1366]

3.9 POWER SUPPLY UNIT [VWR1368]

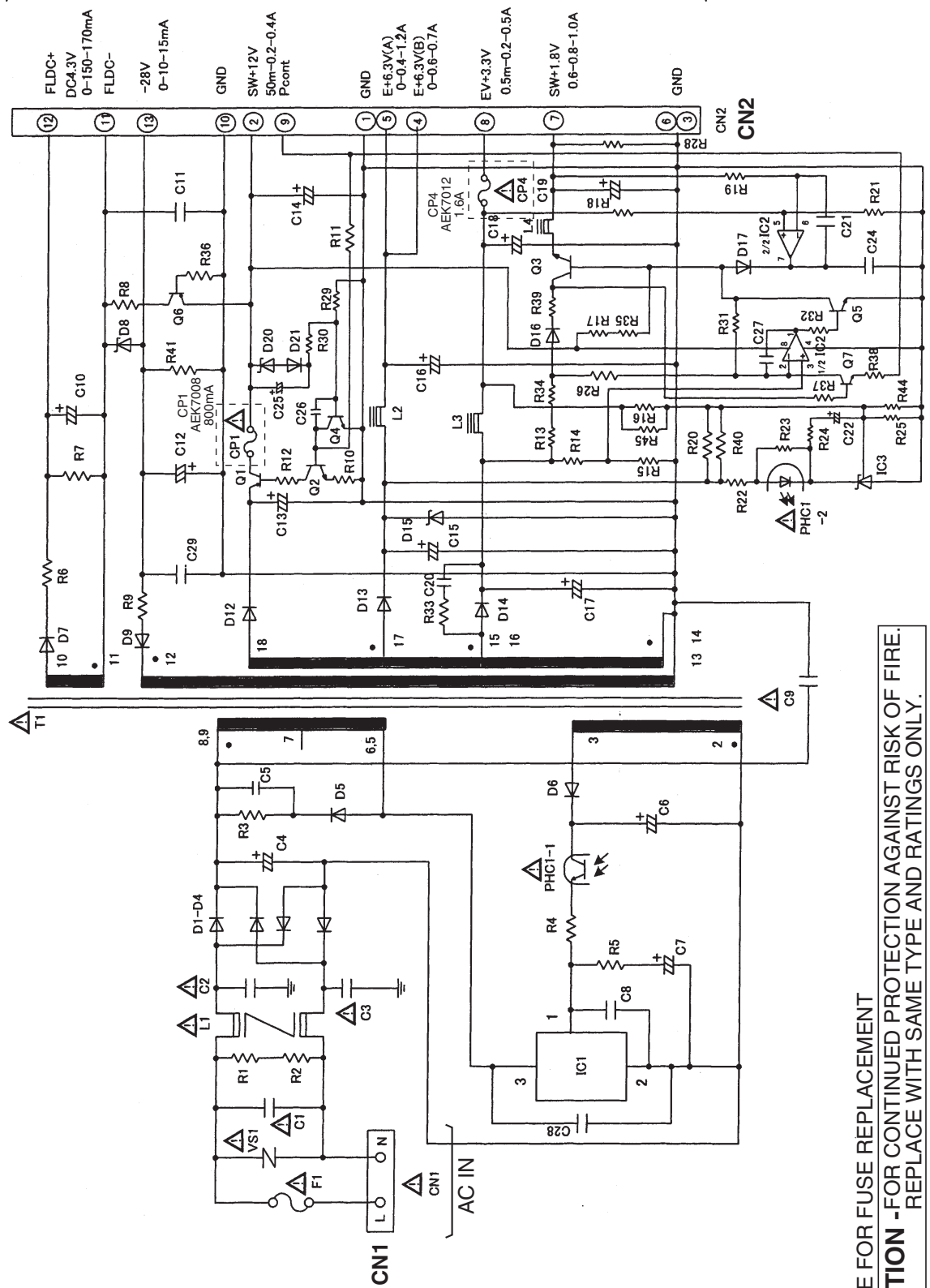
POWER SUPPLY UNIT (VWR1368)

» NOTE OF SPARE PARTS IN POWER SUPPLY (SYPS) UNIT «

- In case of repairing, use the described parts only to prevent an accident.
- Please write the red ✓ mark on the board when the primary section of POWER SUPPLY (SYPS) Unit is repaired.
- Please take care to keep the space, not touching other parts when replacing the parts.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE:
REPLACE ONLY WITH SAME TYPE NO. 491.800 MFD, BY
LITTELFUSE INC. FOR CP1 (AEK7008).

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE NO. 49101.6 MFD, BY
LITTELFUSE INC. FOR CP4 (AEK7012).



- NOTE FOR FUSE REPLACEMENT

CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.

3.10 DOUT ASSY

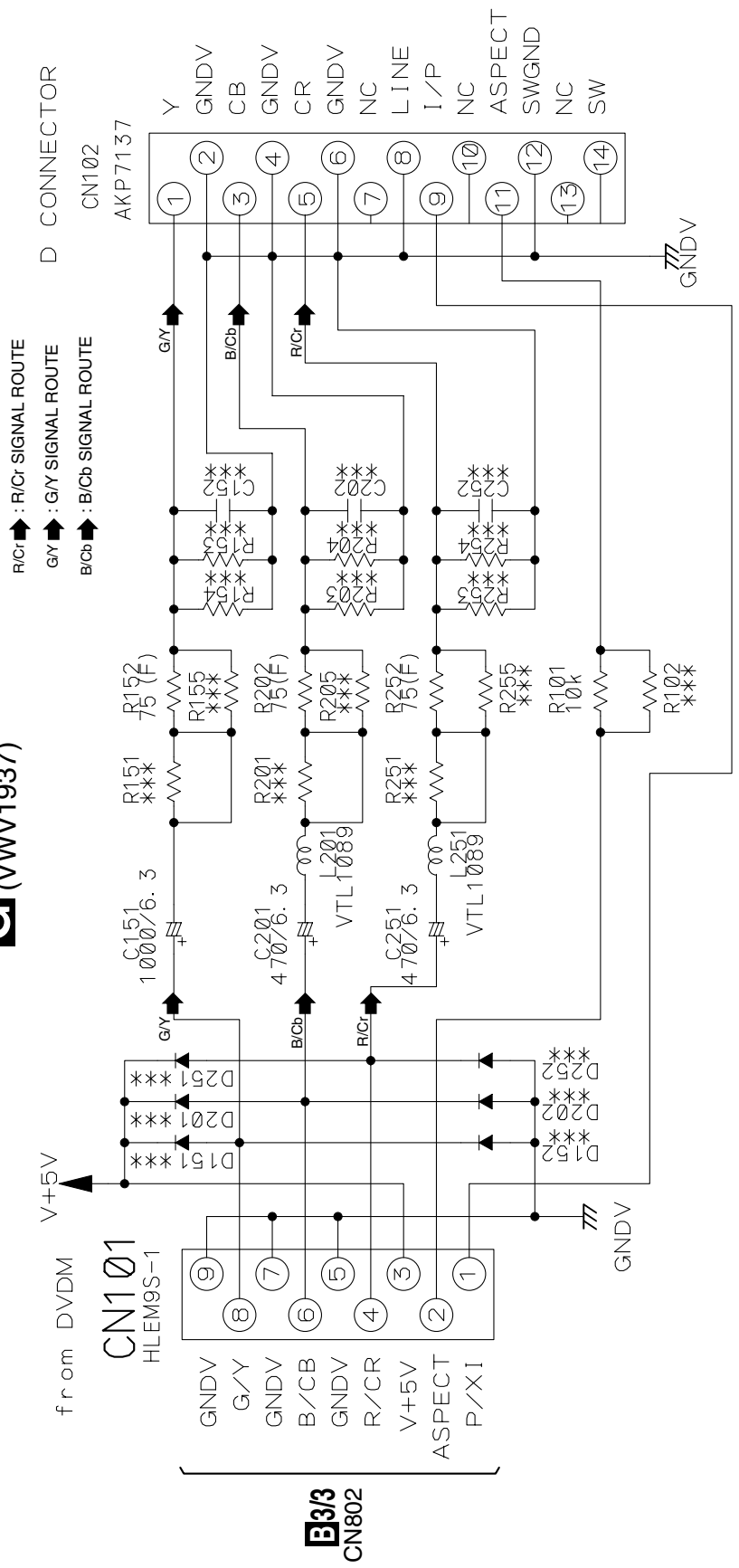
A
B
C
D
E
F

1

2

3

4



*** PARTS NOT MOUNTED

4. PCB CONNECTION DIAGRAM

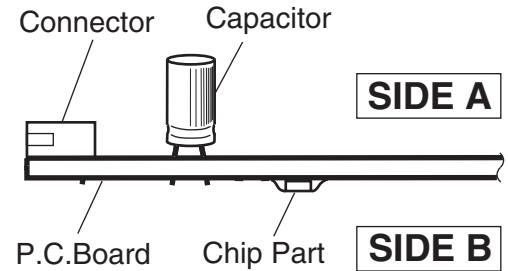
4.1 LOAB ASSY

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

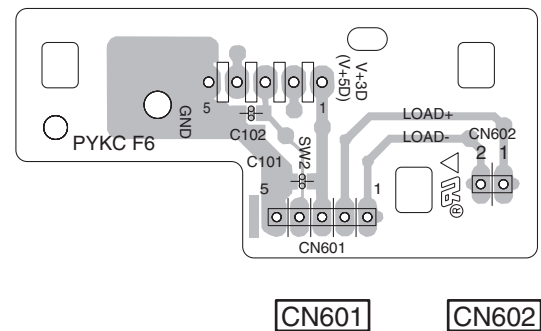
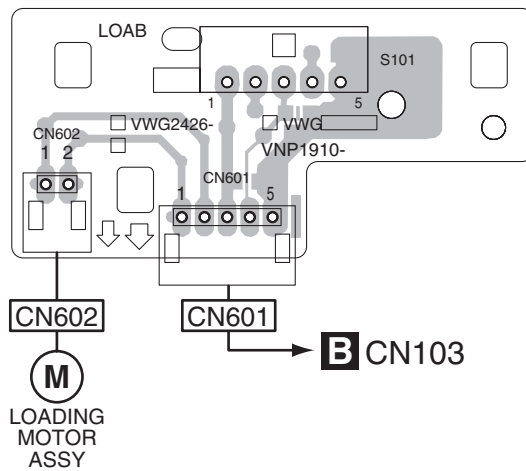
3. The parts mounted on this PCB include all necessary parts for several destinations.
- For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



SIDE A

SIDE B

A LOAB ASSY (VNP1910-A)



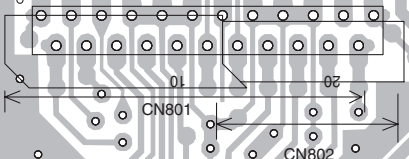
A

A

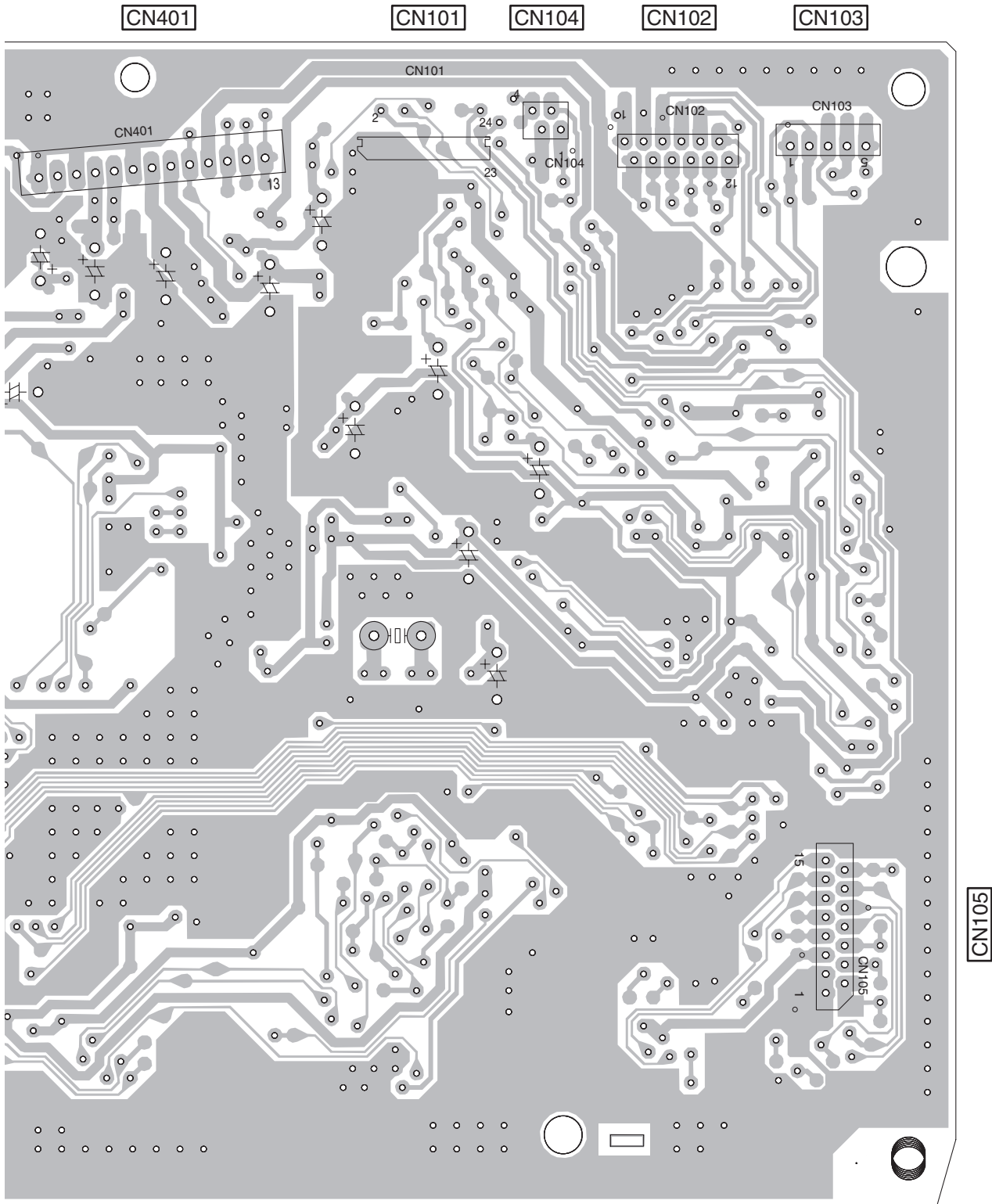
SIDE B

B DVDM ASSY
(VNP1903-A)

CN802



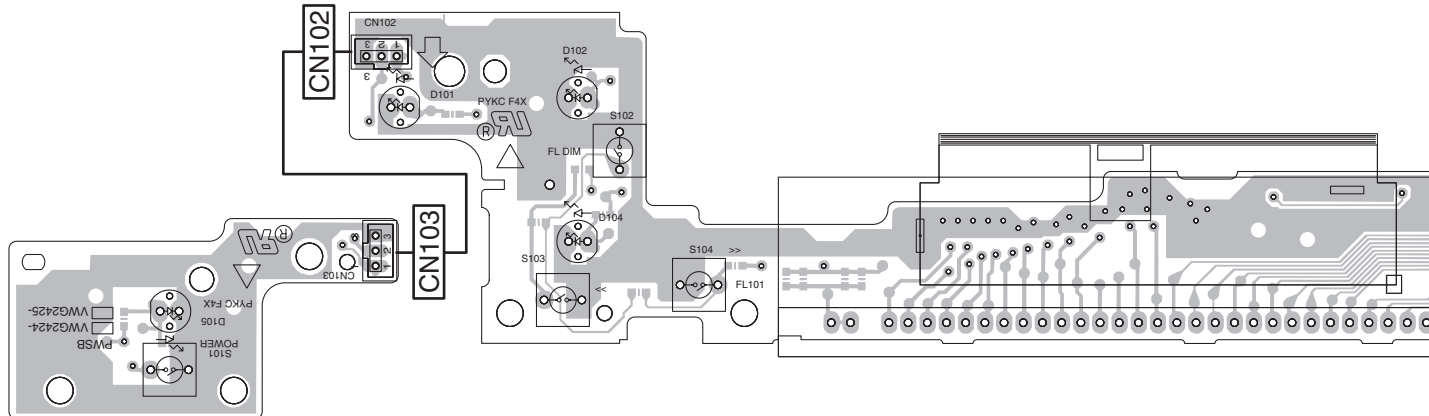
SIDE B



4.3 FLKY and PWSB ASSYS

SIDE A

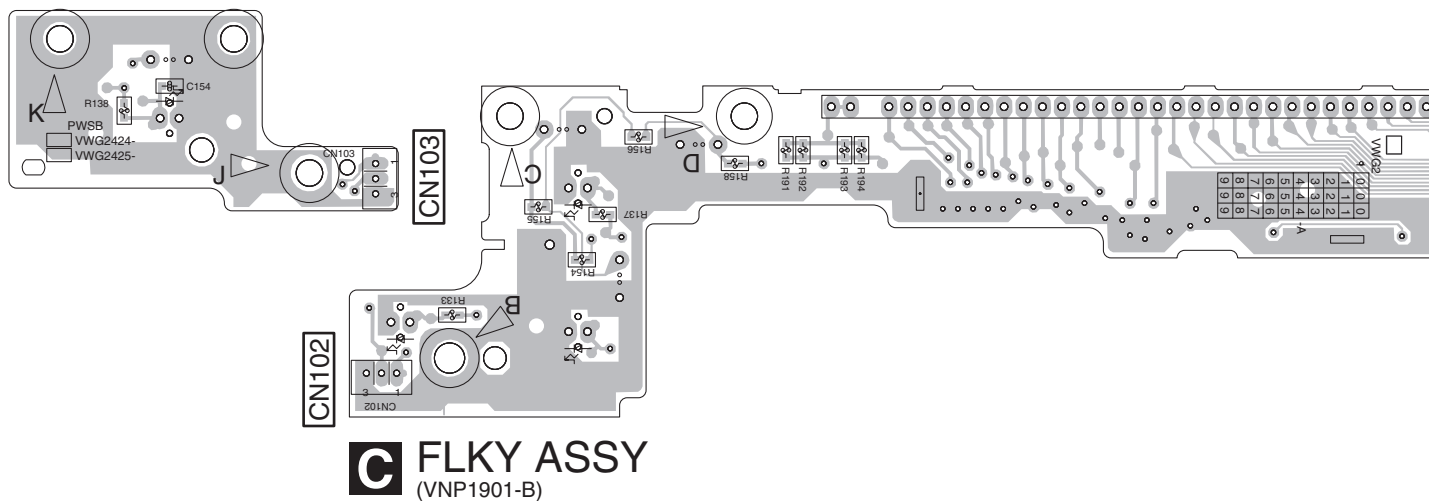
C FLKY ASSY (VNP1901-B)



D PWSB ASSY (VNP1901-B)

SIDE B

D PWSB ASSY (VNP1901-B)



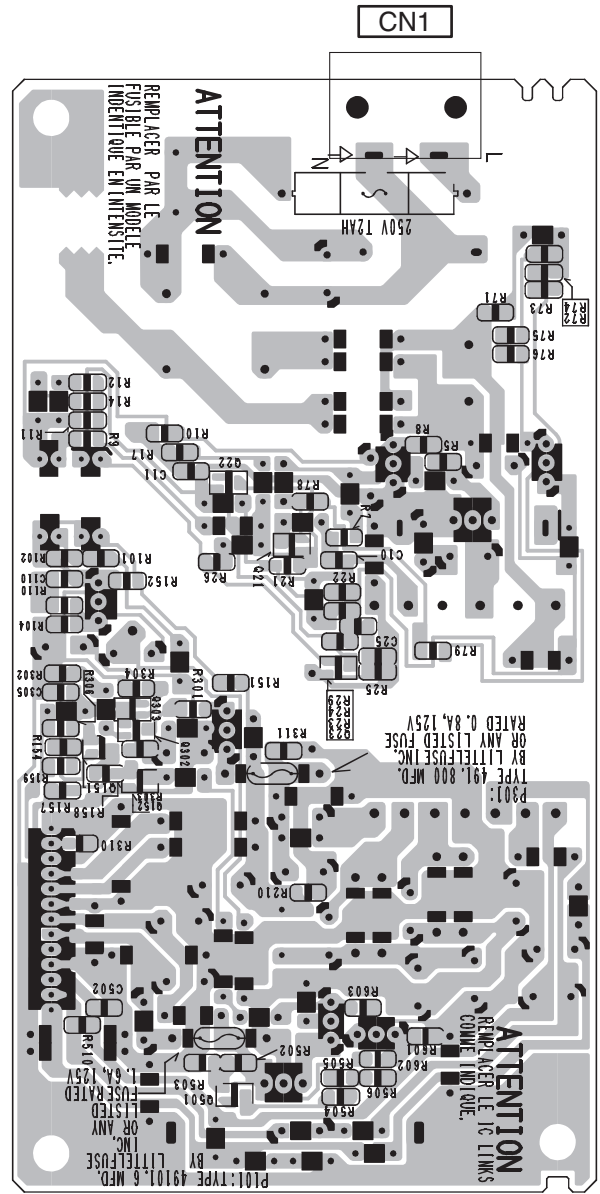
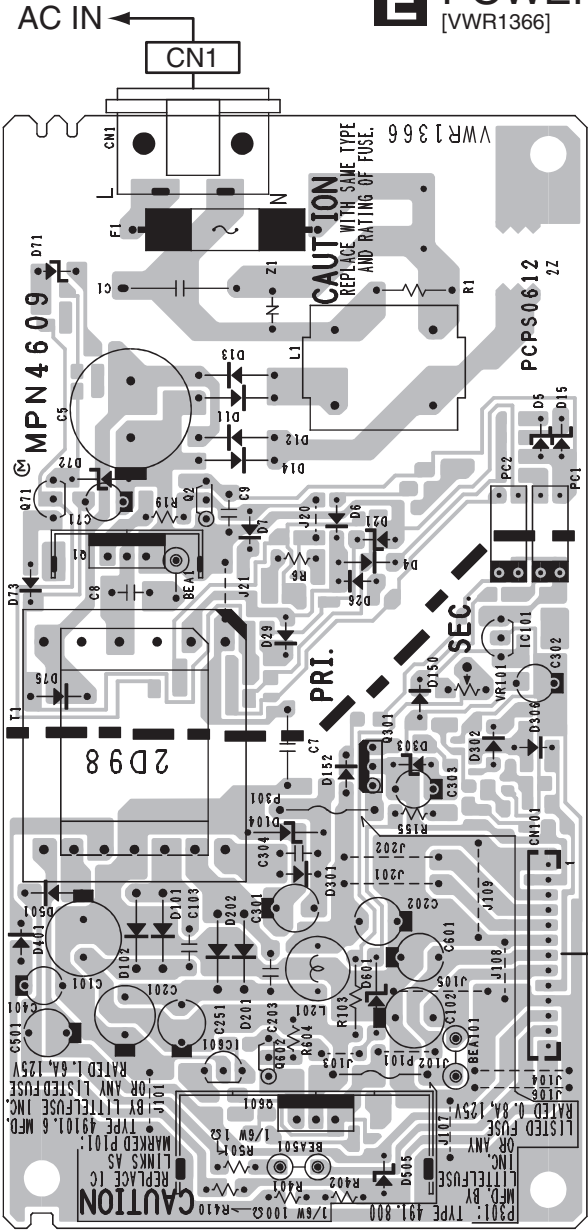
C FLKY ASSY (VNP1901-B)

4.4 POWER SUPPLY UNIT [VWR1366]

SIDE A

SIDE B

POWER SUPPLY UNIT
[VWR1366]

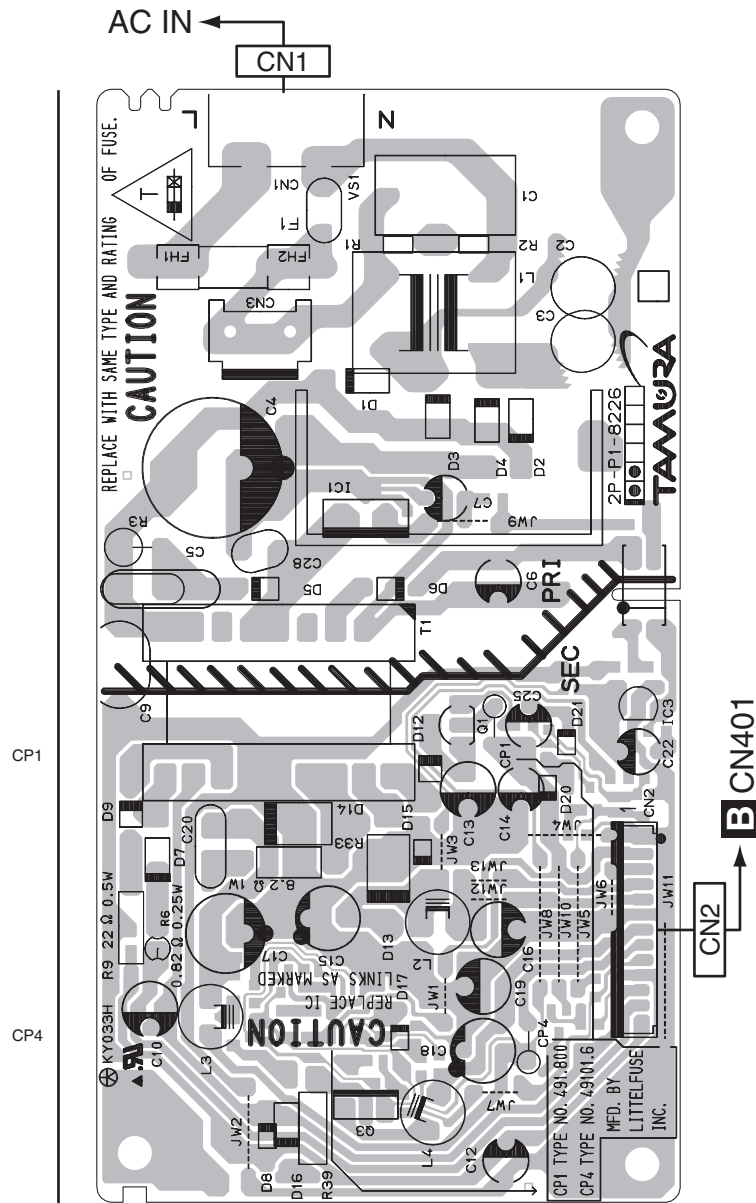


4.5 POWER SUPPLY UNIT [VWR1368]

SIDE A

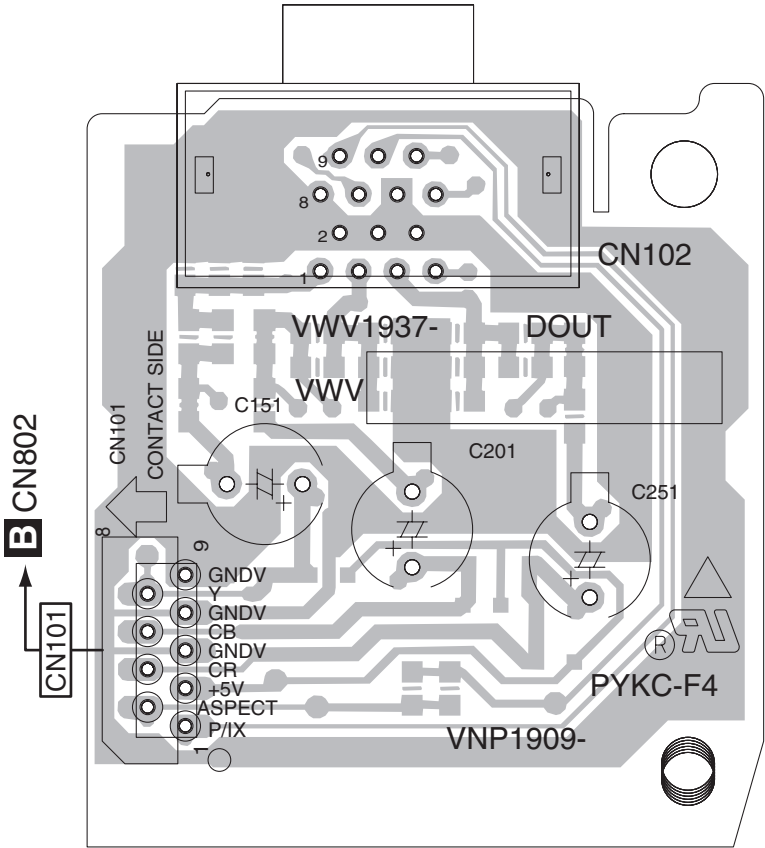
SIDE A

POWER SUPPLY UNIT [VWR1368]



4.6 DOUT ASSY

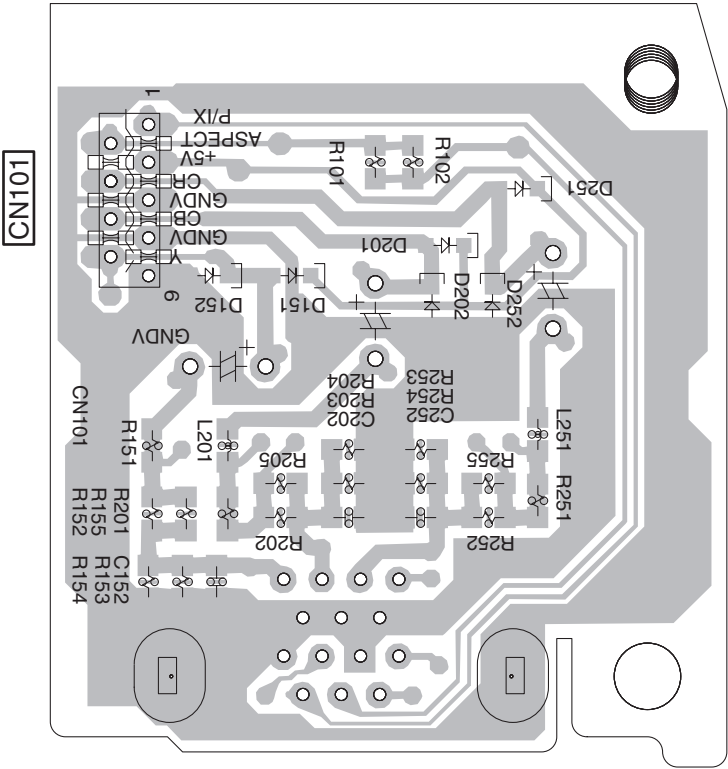
SIDE A



SIDE A

G DOUT ASSY
(VNP1909-A)

SIDE B



SIDE B

5. PCB PARTS LIST

NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

●The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

●When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω \rightarrow 56 x 10¹ \rightarrow 561 RD1/4PU561J

47k Ω \rightarrow 47 x 10³ \rightarrow 473 RD1/4PU473J

0.5 Ω \rightarrow R50 RN2H[R]50K

1 Ω \rightarrow 1R0 RSIP[R]10K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω \rightarrow 562 x 10¹ \rightarrow 5621 RN1/4PC5621F

Mark No. Description Part No.

LIST OF ASSEMBLIES

[RRXU, RLXJ/NC, RDXJ/RB and BKXJ types]

NSP 1..LOADING MECHA. ASSY VWT1207

NSP 2..LOAB ASSY VWG2426

1..DVDM ASSY VWS1555

NSP 1..FLKB ASSY VWM2180

2..FLKY ASSY VWG2420

NSP 2..PWSB ASSY VWG2424

Δ 1..POWER SUPPLY UNIT VWR1366
(or VWR1368)

[LFXJ type]

NSP 1..LOADING MECHA. ASSY VWT1207

NSP 2..LOAB ASSY VWG2426

1..DVDM ASSY VWS1554

NSP 1..FLKB ASSY VWM2181

2..FLKY ASSY VWG2421

NSP 2..PWSB ASSY VWG2424

Δ 1..POWER SUPPLY UNIT VWR1366
(or VWR1368)

NSP 1..DOUT ASSY VVV1937

Mark No. Description Part No.

A LOAB ASSY [VWG2426]

SWITCHES AND RELAYS

S101 REAF SWITCH VSK1011

OTHERS

CN602 CONNCTOR S2B-PH-K

CN601 CONNCTOR S5B-PH-K

PRINTED CIRCUIT BOARD VNP1910

B DVDM ASSY [VWS1554]

SEMICONDUCTORS

IC702 BA4560F

IC602 K4S641632F-TC75

IC101 M63018FP

Δ IC401 MM1565AF

IC801 MM1623AF

Mark No. Description Part No.

Δ IC703 NJM78L05UA

IC701 PCM1742KE

Δ IC402, IC403 PQ1L333M2SP

IC400 PST3228

IC601 STM5589CVA

IC301 STM6316ATXXA

IC604 TC7WU04FU

IC603 VYW2109

Q390, Q753 2SA1576A

Q401, Q403 2SA1602A

Q202, Q212, Q402, Q730, Q791 2SC4081

Q746, Q756 2SD2114K

Q666 DTC114TUA

Q751, Q752, Q805 DTC114YUA

Q201, Q211 HN1A01F

Q603 RN4982

D730 1SS355

D603 RB501V-40

COILS AND FILTERS

L707 LAU4R7J

L390 LCYA2R7J2520

L361 CHIP BEADS VTL1083

L851, L861 CHIP BEADS VTL1089

CAPACITORS

C390 CCSRCH180J50

C142 CCSRCH221J50

C200, C717, C727, C756 CCSRCH331J50

C407, C409, C414, C421, C690 CCSRCH470J50

C713, C723 CCSRCH470J50

C392 CCSRCH560J50

C393, C640, C644 CCSRCH7R0D50

C211 CEAT100M50

C408, C615, C621, C651, C703 CEAT101M10

C705, C711, C721, C731, C801 CEAT101M10

C804 CEAT101M10

C301, C701, C842 CEAT102M6R3

C792 CEAT1R0M50

C201 CEAT220M25

C715, C725, C733 CEAT470M16

C822, C832, C852, C862 CEAT471M6R3

C401 CKSQYB225K10

C127, C128, C381 CKSRYB102K50

C112-C114, C124, C125, C130 CKSRYB103K50

C134, C136, C355 CKSRYB103K50

C300 CKSRYB104K16

C394 CKSRYB152K50

Mark No. Description**Part No.****Mark No. Description****Part No.**

C126, C344
C712, C722
C230, C232, C233, C309, C310

CKSRYB223K50
CKSRYB391K50
CKSRYF104Z25

IC601

IC301
IC604
IC603
Q390, Q753
Q401, Q403

STM5589CVA

STM6316ATXXA
TC7WU04FU
VYW2109
2SA1576A
2SA1602A

C315, C318, C323, C326, C342
C348, C357, C373, C377, C388
C391, C402, C403, C603, C641
C702, C704, C706, C714, C732
C791, C802, C803, C805

CKSRYF104Z25
CKSRYF104Z25
CKSRYF104Z25
CKSRYF104Z25
CKSRYF104Z25

Q202, Q212, Q402, Q730, Q791
Q746, Q756
Q666
Q751, Q752
Q201, Q211

2SC4081
2SD2114K
DTC114TUA
DTC114YUA
HN1A01F

C811, C812, C851, C861
C102, C132, C139, C415, C480
C604, C607, C614, C619
C622–C630, C636, C637
C647, C648, C650, C659, C664

CKSRYF104Z25
CKSRYF105Z10
CKSRYF105Z10
CKSRYF105Z10
CKSRYF105Z10

Q603
D730
D603

RN4982
1SS355
RB501V-40

C684, C698, C707, C821, C831
C841

CKSRYF105Z10
CKSRYF105Z10

COILS AND FILTERS

L707
L390
L361 CHIP BEADS
L851, L861 CHIP BEADS

LAU4R7J
LCYA2R7J2520
VTL1083
VTL1089

RESISTORS

R201
R211
R711, R721
R713, R723
R753

RAB4C220J
RAB4C390J
RN1/16SE1002D
RN1/16SE1802D
RS1/10S182J

CAPACITORS

C390
C142
C200, C717, C727, C756
C407, C409, C414, C421, C690
C713, C723

CCSRCH180J50
CCSRCH221J50
CCSRCH331J50
CCSRCH470J50
CCSRCH470J50

R103, R106
R104, R107
R115–R120
R811, R821
R125, R152, R330, R331, R628

RS1/10S1R0J
RS1/10S1R8J
RS1/10S4R7J
RS1/10S75R0F
RS1/16S1002F

C392
C393, C640, C644
C211
C408, C615, C621, C651, C703
C705, C711, C721, C731, C801

CCSRCH560J50
CCSRCH7R0D50
CEAT100M50
CEAT101M10
CEAT101M10

R635
R301
R502, R512, R522, R532, R542
R552
R101, R102, R123, R172, R182

RS1/16S1002F
RS1/16S1202F
RS1/16S1500F
RS1/16S1500F
RS1/16S5600F

C804
C301, C701, C842
C792
C201
C715, C725, C733

CEAT101M10
CEAT102M6R3
CEAT1R0M50
CEAT220M25
CEAT470M16

R831, R841, R851, R861
Other Resistors

RS1/16S75R0F
RS1/16S###J

OTHERS

CN401 CONNECTOR
CN103 CONNECTOR
CN802 CONNECTOR
JA701 OPT. LINK OUT
FLEXIBLE CABLE

B13B-PH-K
B5B-PH-K
HLEM9S-1
JFJ1001
VDA1681

C822, C832, C852, C862
C401
C127, C128, C381
C112–C114, C124, C125, C130
C134, C136, C355

CEAT471M6R3
CKSQYB225K10
CKSRYB102K50
CKSRYB103K50
CKSRYB103K50

JA801 JACK
CN104 4P CONNECTOR
CN102 12P CONNECTOR
CN105 15P CONNECTOR
CN601 7P CONNECTOR

VKB1179
VKN1235
VKN1243
VKN1246
VKN1267

C300
C394
C126, C344
C712, C722
C230, C232, C233, C309, C310

CKSRYB104K16
CKSRYB152K50
CKSRYB223K50
CKSRYB391K50
CKSRYF104Z25

CN101 24P CONNECTOR
X601 (27MHz)
X301 (20MHz)

VKN1464
VSS1168
VSS1186

C315, C318, C323, C326, C342
C348, C357, C373, C377, C388
C391, C402, C403, C603, C641
C702, C704, C706, C714, C732
C791, C802, C803, C805

CKSRYF104Z25
CKSRYF104Z25
CKSRYF104Z25
CKSRYF104Z25
CKSRYF104Z25

B DVD M ASSY [VWS1555]**SEMICONDUCTORS**

IC702
IC602
IC101
⚠ IC401
IC801

BA4560F
K4S641632F-TC75
M63018FP
MM1565AF
MM1623AF

C811, C812, C851, C861
C102, C132, C139, C415, C480
C604, C607, C614, C619
C622–C630, C636, C637
C647, C648, C650, C659, C664

CKSRYF104Z25
CKSRYF105Z10
CKSRYF105Z10
CKSRYF105Z10
CKSRYF105Z10

⚠ IC703
IC701
⚠ IC402, IC403
IC400

NJM78L05UA
PCM1742KE
PQ1L333M2SP
PST3228

C684, C698, C707, C821, C831
C841

CKSRYF105Z10
CKSRYF105Z10

RESISTORS

Mark No.	Description	Part No.
R201		RAB4C220J
R211		RAB4C390J
R711, R721		RN1/16SE1002D
R713, R723		RN1/16SE1802D
R753		RS1/10S182J
R103, R106		RS1/10S1R0J
R104, R107		RS1/10S1R8J
R115–R120		RS1/10S4R7J
R811, R821		RS1/10S75R0F
R125, R152, R330, R331, R628		RS1/16S1002F
R635		RS1/16S1002F
R301		RS1/16S1202F
R502, R512, R522, R532, R542		RS1/16S1500F
R552		RS1/16S1500F
R101, R102, R123, R172, R182		RS1/16S5600F
R831, R841, R851, R861		RS1/16S75R0F
Other Resistors		RS1/16S###J

OTHERS

CN401 CONNECTOR	B13B-PH-K
CN103 CONNECTOR	B5B-PH-K
JA701 OPT. LINK OUT	JFJ1001
FLEXIBLE CABLE	VDA1681
JA801 JACK	VKB1179
CN104 4P CONNECTOR	VKN1180
CN102 12P CONNECTOR	VKN1188
CN105 15P CONNECTOR	VKN1191
CN601 7P CONNECTOR	VKN1211
CN101 24P CONNECTOR	VKN1464

X601 (27MHz)	VSS1168
X301 (20MHz)	VSS1186

C FLKY ASSY [VWG2420]

SEMICONDUCTORS

IC101	PE5374A
D102	SLR-343VC

SWITCHES AND RELAYS

S102–S107, S109–S118	ASG7013
----------------------	---------

CAPACITORS

C183	CKSRYB102K50
C151–C153	CKSRYB103K50
C102, C105, C182	CKSRYF104Z25
C104	CKSRYF104Z50

RESISTORS

All Resistors	RS1/16S###J
---------------	-------------

OTHERS

CN102 CONNECTOR POST	B3B-PH-K
IC104 REMOTE RECEIVER	RPM7240-H4
V101 FLUORESCENT TUBE	VAW1078
CN101 15P CONNECTOR	VKN1219
X101 (5MHz)	VSS1142

C FLKY ASSY [VWG2421]

SEMICONDUCTORS

IC101	PE5374A
D102	SLR-343VC

SWITCHES AND RELAYS

S102–S107, S109–S118	ASG7013
----------------------	---------

Mark No.	Description	Part No.
CAPACITORS		
C183		CKSRYB102K50
C151–C153		CKSRYB103K50
C102, C105, C182		CKSRYF104Z25
C104		CKSRYF104Z50

RESISTORS

All Resistors	RS1/16S###J
---------------	-------------

OTHERS

CN102 CONNECTOR POST	B3B-PH-K
IC104 REMOTE RECEIVER	RPM7240-H4
V101 FLUORESCENT TUBE	VAW1076
CN101 15P CONNECTOR	VKN1219
X101 (5MHz)	VSS1142

D PWSB ASSY [VWG2424]

SWITCHES AND RELAYS

S101	ASG7013
------	---------

OTHERS

CN103 CONNECTOR POST	B3B-PH-K
----------------------	----------

E POWER SUPPLY UNIT [VWR1366]

OTHERS

⚠ P301 PROTECTOR(800mA)	AEK7063
⚠ P101 PROTECTOR(1.6A)	AEK7066

E POWER SUPPLY UNIT [VWR1368]

OTHERS

⚠ CP1 PROTECTOR(800mA)	AEK7008
⚠ CP4 PROTECTOR(1.6A)	AEK7012

G DOUT ASSY [VWV1937]

COILS AND FILTERS

L201, L251 CHIP BEADS	VTL1089
-----------------------	---------

CAPACITORS

C151	CEAT102M6R3
C201, C251	CEAT471M6R3

RESISTORS

R152, R202, R252	RS1/16S75R0F
Other Resistors	RS1/16S###J

OTHERS

CN102 D-SOCKET(14P)	AKP7137
CN101 CONNECTOR	HLEM9S-1

6. ADJUSTMENT

6.1 ADJUSTMENT ITEMS AND LOCATION

■ Adjustment Items

[Mechanism Part]

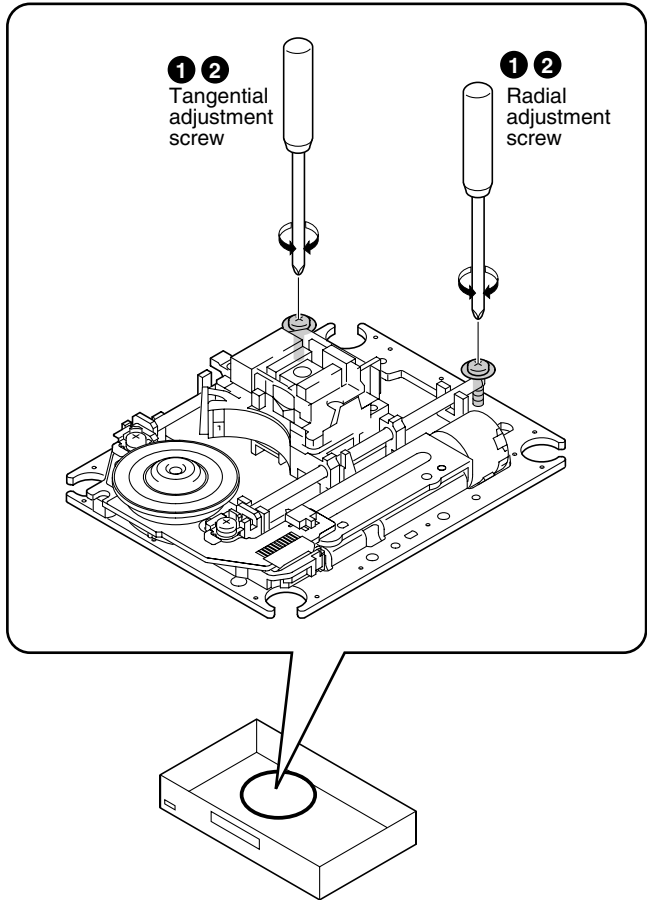
- 1 Tangential and Radial Height Coarse Adjustment
- 2 DVD Jitter Adjustment
- 3 Initialize the Focus Sweep Setting

[Electrical Part]



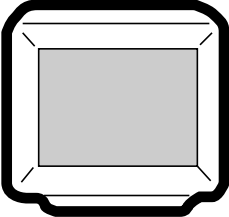
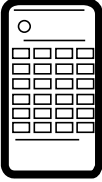


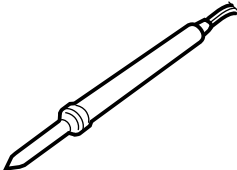
Electrical adjustments are not required.

■ Adjustment Points (Mechanism Part)

Cautions: After adjustment, adjustment screw locks with the Screw tight.



6.2 JIGS AND MEASURING INSTRUMENTS

 ⊕ Screwdriver (large)	 ⊕ Screwdriver (medium)	 TV monitor	 Test mode remote control unit (GGF1067)
 ⊕ Precise screwdriver	 DVD test disc (GGV1025)	 Soldering iron	Screw tight (GYL1001)

6.3 NECESSARY ADJUSTMENT POINTS

When	Adjustment Points
■ Exchange Parts of Mechanism Assy	
Exchange the Pickup	<div> <div>Mechanical point</div> <div>①, ②, ③</div> <div>* After adjustment, screw locks with the Screw tight.</div> </div> <div> <div>Electric point</div> <div></div> </div>
Exchange the Traverse Mechanism	<div> <div>Mechanical point</div> <div>③</div> </div> <div> <div>Electric point</div> <div></div> </div>
Exchange the Spindle Motor	<div> <div>Mechanical point</div> <div>②, ③</div> <div>* After adjustment, screw locks with the Screw tight.</div> </div> <div> <div>Electric point</div> <div></div> </div>

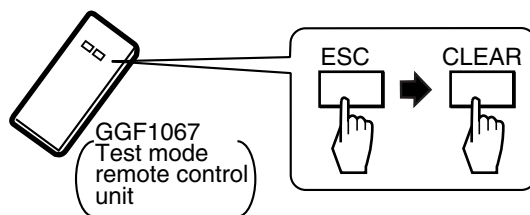
■ Exchange PCB Assy

Exchange PC Board LOAB and DVDM ASSYS	<div> <div>Mechanical point</div> <div></div> </div> <div> <div>Electric point</div> <div></div> </div>
--	---

*

Purpose: To set the sweep which was correct with the individual Traverse mechanism.

Be sure to perform the following step finally when replaced Pickup, Traverse Mechanism and Spindle Motor.

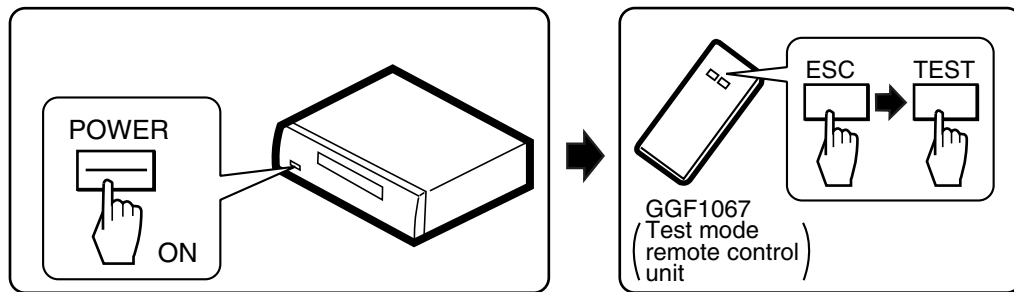


(It is necessary when performed adjustment procedure ②.)

6.4 TEST MODE

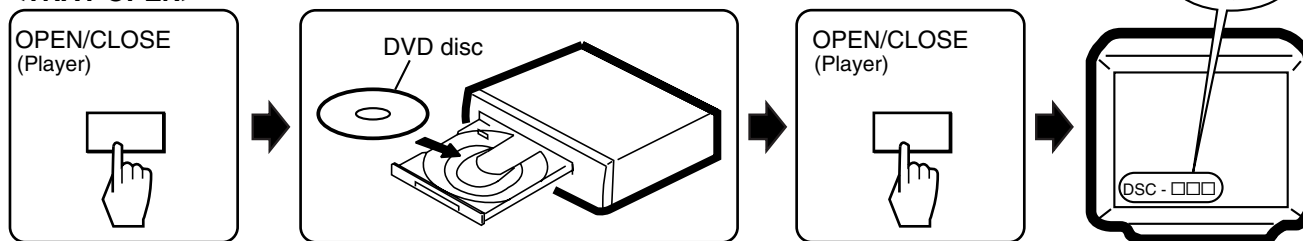
- The TEST MODE functions that are used only during adjustment are described here. For details, see "7.1.1 TEST MODE".

TEST MODE: ON



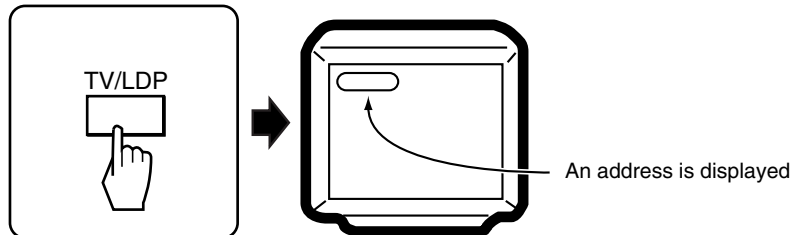
TEST MODE: DISC SET

<TRAY OPEN>



TEST MODE: PLAY

<PLAY>

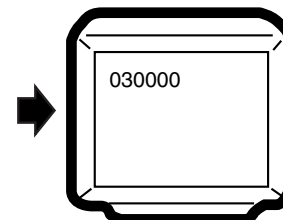


CAUTION:
Perform only trace, video and audio outputs
are nothing.

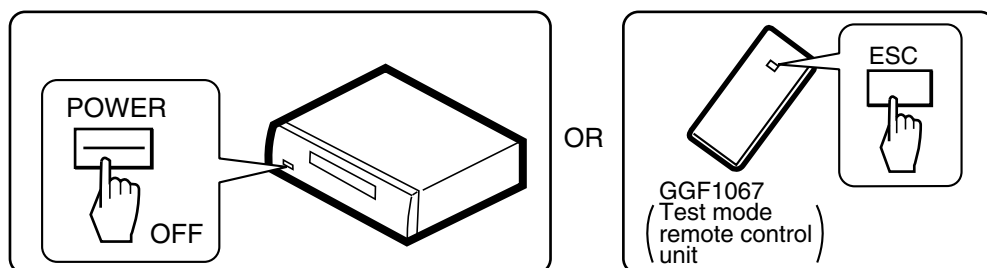
< When playback with the target address of disc (DVD)>

For example, when playback with # 30000

During PLAY [+10] → [3] → [0] → [0] → [0] → [0] → [CHP/TIM] Press keys in order



TEST MODE: OFF



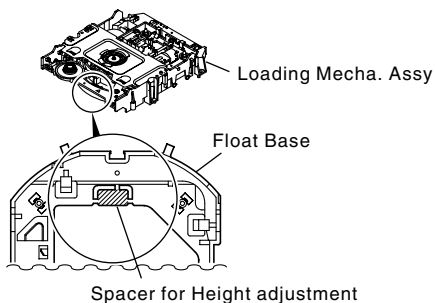
6.5 MECHANISM ADJUSTMENT



1 Tangential and Radial Height Coarse Adjustment

START

- Remove the Loading Mecha. Assy.
- Remove a Spacer for height adjustment attached to the back side (shaded area) of the Loading Mecha. Assy (Float Base) with nippers.



Note:

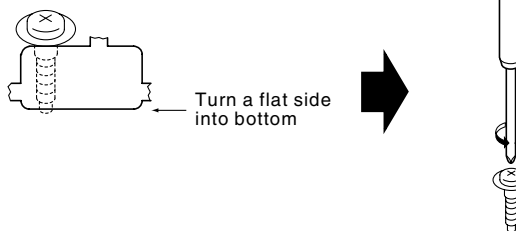
Before removing the flexible cable for the pickup, soldering of the pickup circuit is necessary.
For details, see "7.1.9 DISASSEMBLY".

Cautions:

Because there is not a Spacer for height adjustment in adjustment after the second time, will keep it at need.
(This parts is Traverse mechanism exclusive use of a model for 2003 years)



Put a spacer between a Tangential (or Radial) adjustment screw and Mechanism Base and turn each screw to adjust the height. (Refer to "6.1 ADJUSTMENT ITEMS AND LOCATION".)



2 DVD Jitter Adjustment

- Playback method of inner and outer address for the purpose is referred to "6.4 TEST MODE".
- Jitter indication of the monitor is referred to "7.1.2 DISPLAY SPECIFICATION OF THE TEST MODE".

Use disc: GGV1025

START

- Test mode
- Play the DVD test disc at outer track (around #200000)

Mechanism Assy

Adjust the Tangential Adjustment Screw so that jitter becomes minimum.

J : Min

- Play the DVD test disc at inner track (around #30000)

Mechanism Assy

Adjust the Radial Adjustment Screw so that jitter becomes minimum.

J : Min

- Play the DVD test disc at outer track (around #200000)

Mechanism Assy

Readjust the Tangential Adjustment Screw so that jitter becomes minimum.

J : Min

CHECK

Turn the POWER OFF in case of NG once, and perform the adjustment once again.

NG

Confirm the error rate that is displayed "OK"

(Example ERROR RATE: 6.60×10^{-6} OK)

OK

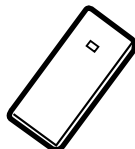
If error rate is OK, locks a root of tangential and radial adjustment screws with the Screw tight, and go to step ③.



Screw tight: GYL1001

Disc playback normally.

- The measurement of block error rate



ESC

5



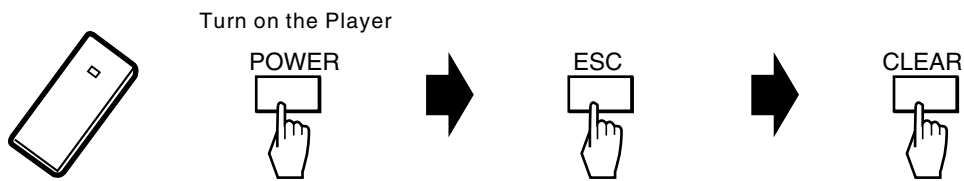
ESC



Test mode end

3 Initialize the Focus Sweep Setting

Purpose: To set the sweep which was correct with the individual Traverse mechanism.



Note: Be sure to perform this step when replaced the Pickup or Traverse mechanism.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE

■ Test Mode Functional Specification

① Test mode entry

In the power ON state, press the [ESC] (A8-5F) key and [TEST / RANDOM] (A8-5E) key in order of the Test mode remote control unit.

- Light the all FL and LEDs, and goes out the FL and LEDs when pressing the keys of something.
- OSD displays test mode. Refer to the "7.1.2 DISPLAY SPECIFICATION OF THE TEST MODE".

② Release the Test mode

- Turn off the power.
- Press the [ESC] (A8-5F) key of the remote control unit and reset it.

③ Tray open / close

- Press the [REPEAT A-B] (A8 - 48) key of the remote control unit.
- Press the [OPEN / CLOSE] key of the main unit from the stop state.

④ Playback stop

1. Press the [REPEAT] (A8 - 44) key of the remote control unit from the playback state.
2. Press the [STOP] key of the remote control unit or main unit from the playback state.
(Playback stops, but the loaded disc keeps rotating.)

⑤ LD ON

DVD : Press the [TEST] (A8-5E) and [1] (A8-01) keys in order, and turn on the laser diode (650n).
CD : Press the [TEST] (A8-5E) and [4] (A8-04) keys in order, and turn on the laser diode (780n).

⑥ Focus on / sweep

1. Lock the focus by pressing the [TEST] (A8-5E) and [2] (A8-02) keys in order.
2. Repeat focus sweep by pressing the [TEST] (A8-5E) and [3] (A8-03) keys in order.

⑦ Spindle FG servo

CAV : Press the [TEST] (A8-5E) and [5] (A8-05) keys in order, then rise up the spindle and FG servo becomes on.
CLV : Press the [TEST] (A8-5E) and [9] (A8-09) keys in order, then rise up the spindle and FG servo becomes on.

⑧ Tracking open / close

1. Open tracking by pressing the [STEP FWD] (A8-54) key of the remote control unit in the play state.
2. Close tracking by pressing the [STEP REV] (A8-50) key of the remote control unit in the play state.

⑨ Slider servo on/off

1. Turn on the slider servo by pressing the [TEST] (A8-5E) and [CX] (A8-0E) keys in order.
2. Turn off the slider servo by pressing the [TEST] (A8-5E) and [TV/LDP] (A8-0F) keys in order.

⑩ Slider in / out

Slider in : In the tracking off state, press the [SCAN REV] (A8-11) key of the remote control unit.
Slider out : In the tracking off state, press the [SCAN FWD] (A8-10) key of the remote control unit.

⑪ Play (perform only the ID search and trace to the specified location)

Press the [TV/LDP] (A8-0F) key of the remote control unit from the stop state.
Perform only trace, video and audio outputs are nothing.

⑫ Screen display ON/OFF

1. Turn off the display by pressing the [AUDIO] (A8-1E) key of the remote control unit.
2. Turn on the display by pressing the [DISPLAY] (A8-43) key of the remote control unit.

⑬ Search

1. Search address input entry

- It becomes the address input mode when pressing the [+10] (A8-1F) key. (Most significant digit of an address displays "<".)
- In this time, display the last address as the initial state.

2. Search address input

- Press the [0] to [9] (A8-00 to 09) keys of the remote control unit. In the DVD, set an address with hexadecimal.
- In the address input mode, turn to the hexadecimal input by pressing the [PROGRAM] (A8-4C) key (display a "*" mark), and [1] to [6] keys are each input as A to F.
- Hexadecimal input and decimal input can switch with toggle.
- In case of CD, perform only the absolute time search.

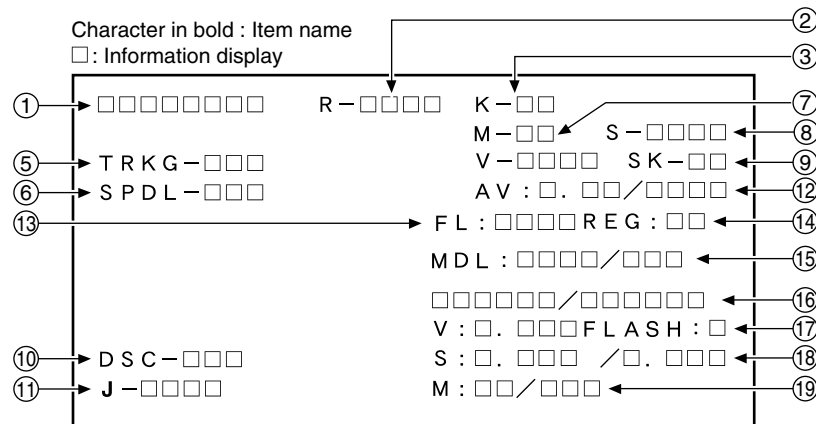
3. Search execution

- Press the [CHP/TM] (A8-13) key of the remote control unit.
- After the search, perform only trace and video and audio outputs are nothing.

4. Release the Search address input

- Clear the address by pressing the [CLEAR] (A8-45) key. Release the address input mode when pressing the [CLEAR] key once again.

7.1.2 DISPLAY SPECIFICATION OF THE TEST MODE



① Address indication

The address being traced is displayed in number.
(as for the DVD, indication of decimal number is possible.)
DVD : ID indication (hexadecimal number, 8 digits)

[*****]

CD : A-TIME (min. sec.) [0000****]

② Code indication of remote control unit [R-****]

In case of double code, display a 2nd code.

③ Main unit keycode indication [K-****]

⑤ Tracking status [TRKG-****]

Tracking on : [ON]
Tracking off : [OFF]

⑥ Spindle status [SPDL-****]

[OFF], [ACC/BRK], [CAV], [CLV]

⑦ Mechanism (loading) position value [M-****]

Unknown : [01] or [41]
Open state : [04]
Close state : [08]
During opening : [12]
During closing : [22]

⑧ Slider position [S-****]

In Side Switch ON : [01]
In Side Switch OFF : [00]

⑨ Output video system [V-****]

NTSC system : [NTSC]
PAL system : [PAL]
Automatic setting : [AUTO]

Scart terminal output [SK-****]

(Display only the WY model which can do the output setting
of scart terminal.)

VIDEO : [00]
S-VIDEO : [01]
RGB : [02]

⑩ Disc sensing [DSC-****]

The type of discs loaded is displayed.
[DVD], [CD], [VCD], []

⑪ Jitter value [J-****]

⑫ Version of the AV-1 chip / version of firmware

[AV: ** / *****]

⑬ Version of the FL controller [FL: ****]

⑭ Region setting of the player [REG: *]

Setting value : [1] to [6]

⑮ Destination setting of the FL controller

[MDL: **** / ****]

Four characters in the front represent the type of model.
Three characters in the back represent the destination code.
J: /J, K: /KU, /KC, /KU/KC, R: /RL/RD, RAM: /RAM,
LB: /LB, WY: /WY

⑯ Part number of the flash ROM and system controller

[***** / *****]

⑰ Version of the flash ROM [V: *.****]

Flash ROM size [FLASH = **]

⑱ Revision of the system controller [S: *.**** / *.****]

version . revision / build number of the ST core

⑲ Revision of the DVD mechanism controller

[M: ** / ****]

Kinds of version / firmware of the FE.
RAM or ROM

7.1.3 FUNCTIONAL SPECIFICATION OF THE SHORTCUT KEY

Only during normal playback, the following shortcut keys can be assigned by pressing a required key after pressing the ESC key of the remote control unit. To quit, press the ESC key

Command Contents	Conditions	Remote Control Key Name	Remote Control Code
Memory clear and resion / revision indication		CLEAR (*1)	A8-45
Average value measurement of DVD error rate		5 (*1)	A8-05
CD error rate measurement		5 (*1)	A8-05
Aspect : Pan scan		2	AF-A2
Aspect : Letter box		3	AF-A3
Aspect : Wide		4	AF-A4
Digital : AC3		5	AF-A5
Digital : AC-3 > PCM		6	AF-A6
Virtual surround : OFF	Only for models having the corresponding functions	7	AF-A7
Virtual surround : TruSurround		8	AF-A8
Digital output ON		REPEAT A	AF-E8
Digital output OFF		REPEAT B	AF-E4
DTS Digital output ON		STEP FWD	AF-B7
DTS Digital output OFF		STEP REV	AF-B8
Scart terminal output : VIDEO	WY, models equipped with Scart terminal	AUDIO	AF-BE
Scart terminal output : S-VIDEO		SUBTITLE	AF-36
Scart terminal output : RGB		ANGLE	AF-B5
Progressive OFF	Only for progressive models	R_SKIP	A3-9D
Progressive ON		F_SKIP	A3-9C
Audio 5.1 CH ON	Only for models having the corresponding functions	KD_ENTER	AF-EF
FL indication of EDC / ID error		CX (*1)	A8-0E
FL indication of ID number		STEREO (*1)	A8-4A
ZOOM ON (X4)		ZOOM	AF-37
ZOOM OFF		< X3 (*1)	A8-59
Service mode indication (error rate indication, etc.)		CHP/TIM (*1)	A8-13
Model information indication		CHAP (*1)	A8-40
Background color change		+10 (*1)	A8-1F
Audio last stage mute ON		9	AF-A9
Audio last stage mute OFF		0	AF-A0
Title search Input mode IN Title No. input Search execution		SIDE A (*1) Numbers (*1) PLAY (*1)	A8-4D A8-00 to A8-09 A8-17
Region confirmation mode		AUDIO (*1) Numbers (*1)	A8-1E A8-01 to A8-08

• Service mode indication (ESC + CHP/TIM keys)

*1 : Test mode remote control unit

ID Address

The error rate is always displayed in exponential notation, e.g., *.* * e - *, for both DVDs and CDs.

EDC/ID/AV 1 error history (ID Address, EDC/ID/AV 1 Error, last eight errors)

Self-diagnosis functions (If a mechanical error has occurred, the mechanical-error history is also displayed.)

• Calculation of the average error rate (ESC + "5" [Test mode remote control unit] keys)

The average of the last eight error rates is calculated and indicated in exponential notation. After the calculation is completed, "OK" or "NG" is displayed. If "NG" is displayed, the disc tray will open (for both DVDs and CDs)

For DVDs: OK with 5.0e-4 or less, for CDs: OK with 7.6e-3 or less

• Indication of model information (ESC + CHAP keys)

The items from 12 to 19 of the TEST MODE Indications are displayed. However, in the indications, S in the standard test mode is changed to B.E VERSION, and M is changed to F.E VERSION. For details, see 7.1.4.

• Change of the background colors (ESC + "+10" [Test mode remote control unit] keys)

Every time the keys are pressed, the background color is changed between blue and green alternately.

(The green background is used in SETUP NAVIGATOR.)

• Region confirmation mode (ESC + AUDIO [Test mode remote control unit] + "1"- "8" [Test mode remote control unit] keys)

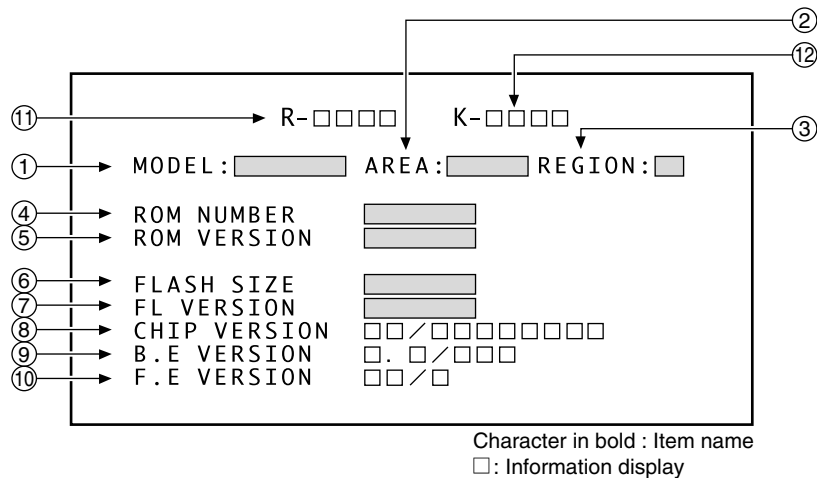
After you press the AUDIO key while holding the ESC key pressed and then input the region number, if the number is different from that set in the unit, an error message is displayed, and the tray opens.

7.1.4 SPECIFICATION OF MODEL INFORMATION DISPLAY

To display model information : Press the ESC key then the CHAP key.

To close the model information display : Press the ESC key.

• Display contents



① **Model name**

Display it according to model information set from the FL controller.

② **Destination indication**

Display it according to model information set from the FL controller.

③ **Region No.**

④ **Part number**

⑤ **ROM version**

⑥ **Flash size**

⑦ **FL controller version**

⑧ **CHIP VERSION**

Version of ST CHIP

CUT ID / JTAG ID

(two columns) (eight columns)

⑨ **B.E VERSION**

Version of BACK END (version of ST core software)

□. □ / □□□

softwareVersion . softwareRevision / buildNumber

⑩ **F.E VERSION**

Version of FRONT END (version of mechanism controller CHIP software)

□□ / □

MainVersion / Kinds of firmware RAM or ROM

⑪ **Remote control code**

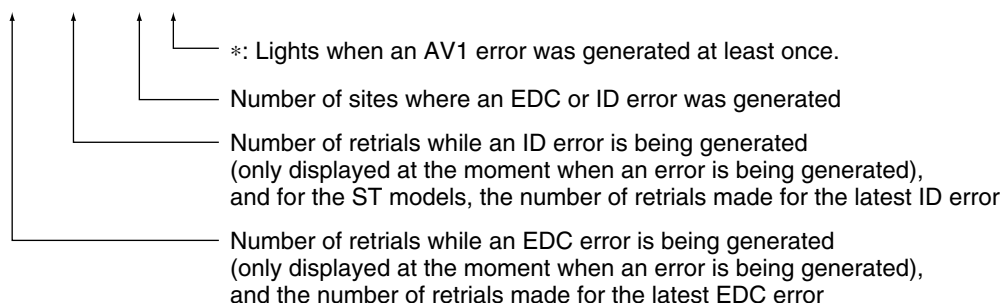
⑫ **Key code of Main unit**

7.1.5 FUNCTIONAL SPECIFICATION OF THE SERVICE MODE

• EDC / ID error FL display (shortcut function)

EDC/ID error is displayed on the FL display if you press the CX key while holding the ESC key on the TEST MODE remote control unit pressed. To quit while an EDC/ID error is displayed, press the ESC key.

FL display
00 / 00 / 01 *



• Display during Service Mode

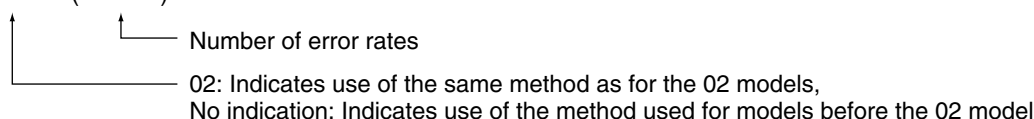
To enter Service Mode, press the CHP/TIM key while holding the ESC key pressed.
To quit, press the ESC key.

Service mode display

① ID Address

② Error rate (always displayed), in exponential notation

** (****)



③ EDC/ID/AV1 error history (ID Address, EDC/ID/AV1 errors, last eight errors)

Description of AV1 errors

BIT0: In BE code, an EDC error, FEC I/F buffer overflow, or "not valid" is generated (B.E error)

BIT1: In BE code, the ID is different from that of the target (B.E error)

BIT2: An error was generated in FE-added 2-byte EDC data. (F.E error)

④ Self-diagnosis functions

Whether F.E is normal or not is checked.

FE OK: No abnormality in F.E

FE Error: Abnormality is recognized in F.E.

Pressing the CHP/TIM key again displays the mechanical error history. Each press of the CHP/TIM key changes the displays between the mechanical error history and the Service Mode display.

For details on the mechanical error history, refer to the addendum.

Indication plan contents

	SERVICE MODE	ADDRESS	/EDC	/ID	/AV
①	□□□□□□□□	□□□□□□□□	□□	□□	□□
②	□□□□□□□□	□□□□□□□□	□□	□□	□□
④	□□□□□□□□	□□□□□□□□	□□	□□	□□
		□□□□□□□□	□□	□□	□□
		□□□□□□□□	□□	□□	□□
		□□□□□□□□	□□	□□	□□
		□□□□□□□□	□□	□□	□□
		□□□□□□□□	□□	□□	□□

Character in bold : Item name

□: Information display

AV1 ERR	BIT		
	2	1	0
00	0	0	0
01	0	0	1
02	0	1	0
03	0	1	1
04	1	0	0
05	1	0	1
06	1	1	0
07	1	1	1

7.1.6 MECHANICAL ERROR HISTORY

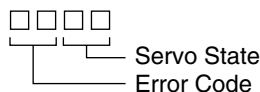
Only if a mechanical error (FE error) has been generated, a mechanical error history containing up to the last eight errors is displayed if you press the CHP/TIM key in Service Mode.

Errors are displayed in descending order, with the latest one at the top.

Description of the mechanical error history

① Error number

The first two digits are for the error code, and the second two digits are for the servo state.



Note: When an error has been generated, if the servo state is "Disc judge," the disc tray opens, and if the servo state is other than "Disc judge," the unit stops (excluding a case of a device error with the error code 0xd*)..

② Error number

The elapsed time from the time when the system was turned on until an error was generated is displayed.

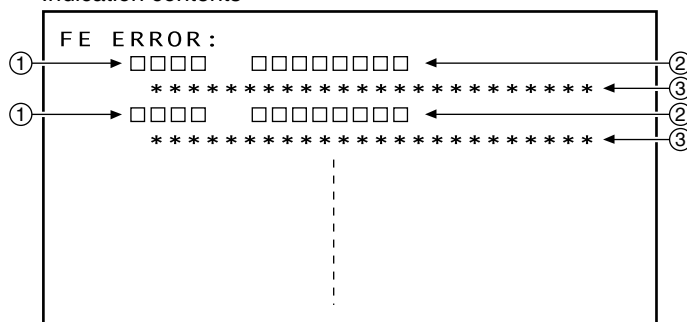
Note: If a later error time is shorter than the previous error time, it means that the unit was turned off then on again.

③ Description of errors

Error messages are displayed.

Example: If the error code is 0x13 (Focus lost timeout) and the servo state is 0x05 (Disc judge), the message becomes "Focus lost timeout in Disc judge."

Indication contents



• List of the error codes

FOCUS ERROR	0x0*	FOCUS TIMEOUT	0x1*
Focus on error	0x01	Focus on timeout	0x11
Focus off error	0x02	Focus off timeout	0x12
Focus lost error	0x03	Focus lost timeout	0x13
Focus balance adjust error	0x04	Focus balance adjust timeout	0x14
Focus gain adjust error	0x05	Focus gain adjust timeout	0x15
Focus sweep error	0x06	Focus sweep timeout	0x16
Focus reflection error	0x07	Focus reflection timeout	0x17
TRACKING ERROR	0x2*	TRACKING TIMEOUT	0x3*
Tracking on error	0x21	Tracking on timeout	0x31
Tracking off error	0x22	Tracking off timeout	0x32
Tracking lost error	0x23	Tracking lost timeout	0x33
Tracking balance adjust error	0x24	Tracking balance adjust timeout	0x34
Tracking gain adjust error	0x25	Tracking gain adjust timeout	0x35
STEPPING ERROR	0x4*	STEPPING TIMEOUT	0x5*
Stepping on error	0x41	Stepping on timeout	0x51
Stepping off error	0x42	Stepping off timeout	0x52
Stepping lost error	0x43	Stepping lost timeout	0x53
Stepping move error	0x44	Stepping move timeout	0x54
SPINDLE ERROR	0x6*	SPINDLE TIMEOUT	0x7*
Spindle on error	0x61	Spindle on timeout	0x71
Spindle off error	0x62	Spindle off timeout	0x72
Spindle lost error	0x63	Spindle lost timeout	0x73
Spindle CAV error	0x64	Spindle CAV timeout	0x74
Spindle CLV error	0x65	Spindle CLV timeout	0x75
ACQUISITION ERROR	0x8*	ACQUISITION TIMEOUT	0x9*
PLL lost error	0x83	PLL lost timeout	0x93
DECODER ERROR	0xa*	DECODER TIMEOUT	0xb*
ID lost error	0xa3	ID lost timeout	0xb3
DEVICE ERROR	0xd*		
SRAM error	0xd1		

• List of the servo states

0x00	Reset
0x01	Stop (inside position)
0x02	Stop (any position)
0x03	Braking for stop
0x04	New disc
0x05	Disc judge
0x06	Reserved 1
0x07	Playing
0x08	Start up
0x09	Seeking
0x0A	Pausing
0x0B	Reading BCA
0x0C	Reserved 2
0x0D	
0x0E	Tray open
0x0F	Tray moving

Note : 0 x code
(Only this part is displayed to a display)

ERROR CODE TABLE

Error Name	No.	Causes	Check Item	Possibility of Trouble	Remarks
FOCUS ERROR (0 x 0*)					
Focus on error	0 x 01	Focus on could not be completed	Are not there a dirt or a scratch in the Disc? Does LD become weak? Does the lens move up and down?	1. Pickup 2. Driver 3. Front End IC	
Focus off error	0 x 02	Focus off could not be completed	Unknown		
Focus lost error	0 x 03	Focus servo is lost	Are not there a dirt or a scratch in the Disc? Does LD become weak?	1. Pickup	
Focus balance adjust error	0 x 04	AFB on could not be completed			
Focus gain adjust error	0 x 05	Focus AGC could not be completed			
Focus sweep error	0 x 06				
Focus reflection error	0 x 07	Dimensions of S curve did not reach to the aim value	Does LD become weak?	1. Pickup	
FOCUS TIMEOUT (0 x 1*)					
Focus on timeout	0 x 11	Did timeout at focus on	Are not there a dirt or a scratch in the Disc? Does LD become weak? Does the lens move up and down?	1. Pickup 2. Driver 3. Front End IC	
Focus off timeout	0 x 12	Did timeout at focus off			
Focus lost timeout	0 x 13	Did timeout at focus backup			
Focus balance adjust timeout	0 x 14	Did timeout at AFB			
Focus gain adjust timeout	0 x 15	Did timeout at AGC			
Focus sweep timeout	0 x 16				
TRACKING ERROR (0 x 2*)					
Tracking on error	0 x 21	Tracking on could not be completed		1. Pickup 2. Driver 3. Front End IC	
Tracking off error	0 x 22	Tracking off could not be completed			
Tracking lost error	0 x 23	Tracking servo is lost		1. Pickup	
Tracking balance adjust error	0 x 24	ATB could not be completed		1. Pickup	
Tracking gain adjust error	0 x 25	AGC could not be completed		1. Pickup	
Tracking jump error	0 x 26	Tracking jump could not be completed			
TRACKING TIMEOUT (0 x 3*)					
Tracking on timeout	0 x 31	Did timeout at tracking on	Are not there a dirt or a scratch in the Disc?	1. Pickup 2. Driver 3. Front End IC	
Tracking off timeout	0 x 32	Did timeout at tracking off			
Tracking lost timeout	0 x 33	Did timeout at tracking backup	Are not there a dirt or a scratch in the Disc?	1. Pickup	
Tracking balance adjust timeout	0 x 34	Did timeout at ATB		1. Pickup	
Tracking gain adjust timeout	0 x 35	Did timeout at AGC		1. Pickup	
Tracking jump timeout	0 x 36	Did timeout at tracking jump			
STEPPING ERROR (0 x 4*)					
Stepping on error	0 x 41	Stepping on could not be completed		1. Pickup 2. Driver 3. Front End IC	
Stepping off error	0 x 42	Stepping off could not be completed			
Stepping lost error	0 x 43	Stepping servo is lost			
Stepping move error	0 x 44	Stepping could not move	Do move to inner and outer periphery of the stepping in the test mode? Do indicate "S-04" at the most inner periphery of the stepping?	1. Stepping motor 2. Inside switch 3. Driver	
STEPPING TIMEOUT (0 x 5*)					
Stepping on timeout	0 x 51	Did timeout at stepping on		1. Pickup 2. Driver 3. Front End IC	
Stepping off timeout	0 x 52	Did timeout at stepping off			
Stepping lost timeout	0 x 53	Did timeout at stepping backup			
Stepping move timeout	0 x 54	Did timeout at stepping movement	Do move to inner and outer periphery of the stepping in the test mode? Do indicate "S-04" at the most inner periphery of the stepping?	1. Stepping motor 2. Inside switch 3. Driver	

Error Name	No.	Causes	Check Item	Possibility of Trouble	Remarks
SPINDLE ERROR (0 x 6*)					
Spindle on error	0 x 61	Spindle on could not be completed			
Spindle off error	0 x 62	Spindle off could not be completed			
Spindle lost error	0 x 63	Spindle lost control			
Spindle CAV error	0 x 64	CAV on could not be completed			
Spindle CLV error	0 x 65	CLV on could not be completed			
SPINDLE TIMEOUT (0 x 7*)					
Spindle on timeout	0 x 71	Did timeout at spindle on			
Spindle off timeout	0 x 72	Did timeout at spindle stop			
Spindle lost timeout	0 x 73	Did timeout at spindle backup	Are not there a dirt or a scratch in the Disc? Is FG output from the driver?	1. Spindle motor 2. Spindle driver	
Spindle CAV timeout	0 x 74	Did timeout at CAV on	Is spindle rotating? Is FG output from the driver? Is the PDM output from Front End?	1. Spindle motor 2. Spindle driver 3. Front End IC	
Spindle CLV timeout	0 x 75	Did timeout at CLV on			
ACQUISITION ERROR (0 x 8*)					
PLL lost error	0 x 83	PLL is lost	Are not there a dirt or a scratch in the Disc?	1. Pickup 2. Front End IC	
ACQUISITION TIMEOUT (0 x 9*)					
PLL lost timeout	0 x 93	Did timeout at PLL backup	Are not there a dirt or a scratch in the Disc?	1. Pickup 2. Front End IC	
DECODER ERROR (0 x a*)					
ID lost error	0 x a3	ID is not readable	Are not there a dirt or a scratch in the Disc?	1. Pickup 2. Front End IC	
DECODER TIMEOUT (0 x b*)					
ID lost timeout	0xb3	Did timeout at ID backup	Are not there a dirt or a scratch in the Disc?	1. Pickup 2. Front End IC	
DEVICE ERROR (0 x d*)					
SRAM error	0 x d1	Cannot access SRAM	Power supply of SRAM Is not bus line short-circuiting?	1. SRAM 2. Front End IC 3. Front End-SRAM bus line	
FAILSAFE (0 x e*)					
Unexpected error	0 x e1	Unexpected error		1. software runaway 3. Software bug	

7.1.7 ID NUMBER AND ID DATA SETTING

Caution:

For the DVD players compatible with DVD-RW, for playback of a DVD-RW disc (CPRM), it is necessary that an individual ID number and ID data are set for each player. If the ID number and ID data be not properly set in the manner described below, future operations cannot be guaranteed. The ID number is written on the yellow label at the rear panel of the player.

If there is no yellow label, before downloading FLASH ROM, take note of the ID number set following the procedures outlined in "ID Number Confirmation Mode" on the next page.

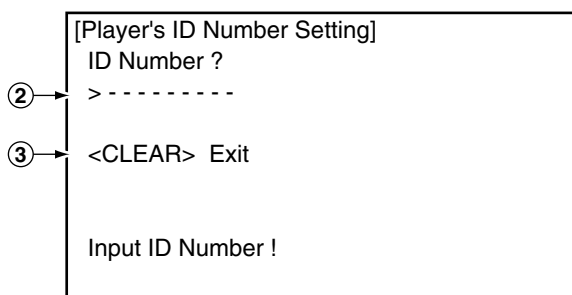
Note: Enter ID numbers while the unit is in Stop mode so that the values set will be immediately written to the flash ROM. The following operations are all made with the TEST MODE remote control unit (GGF1067).

ID Number Input Mode

- ① To enter ID Number Input Mode, with no ID number set, such as in a case of immediately after upgrading the firmware, press the ESC key then the STEREO key.

Note: If a previous ID number and ID data, such as a factory-preset ID number and ID data, are maintained, the unit enters ID Number Confirmation Mode when the above keys are pressed. However, if only an ID number is maintained, the unit enters ID Data Input Mode.

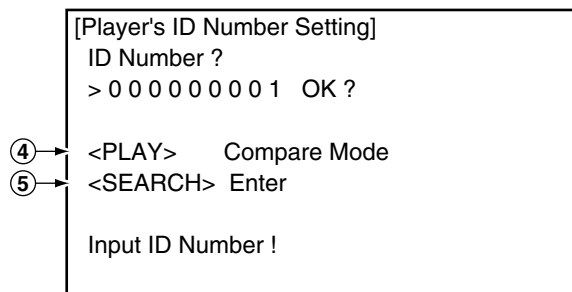
- ② Enter a 9-digit ID number. The ID number is also displayed on the FL display.
- ③ By pressing the CLEAR key without having input a number, you can exit this mode. Each press of this key after a number has been input deletes one digit.



- ④ After entering all 9 digits, if you press the PLAY key, the unit enters Compare mode. Enter the same ID number again. Only if your two input numbers match, the ID number is set. Compare mode helps eliminate mistyping of the ID number.

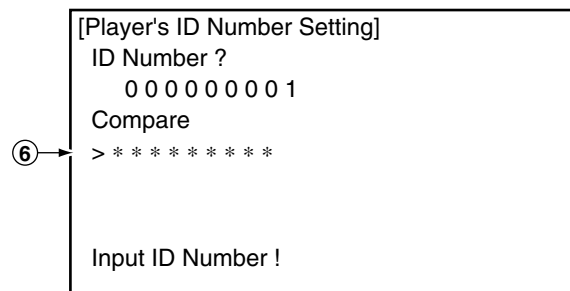
Note: If you press the PLAY button before inputting a 9-digit ID number, the unit returns to Step ② without doing anything else.

- ⑤ After entering all 9 digits, if you press the SEARCH key, the unit unconditionally sets the input number as the ID number. Then the unit automatically enters Player's Data Input Mode. (The SEARCH key is not accepted after all 9 digits have been entered.)



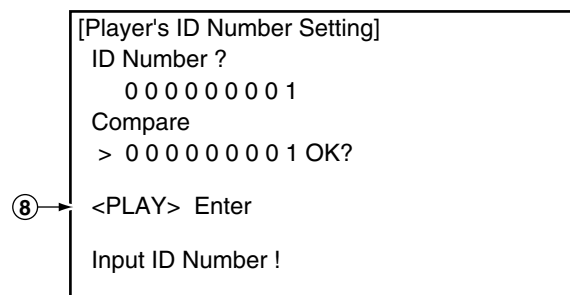
- ⑥ This display appears when the PLAY key is pressed in Step 4. Enter a 9-digit number to compare. The number is also displayed on the FL display.

- ⑦ By pressing the CLEAR key without having input a number, the unit returns to Step ② without doing anything else. Each press of this key after a number has been input deletes one digit.



- ⑧ After entering all 9 digits, if you press the PLAY key, the unit compares the numbers input in Steps ② and ⑥, and only if the numbers match, that number is set as the ID. Then the unit automatically enters ID DATA Input Mode. If the numbers do not match, the disc tray is opened, and the unit exits ID Number Input Mode.

Note: If you press the PLAY button before inputting a 9-digit ID number, the unit returns to Step ⑥ without doing anything else.



ID Number Confirmation Mode

- ① To enter ID Number Confirmation Mode after the ID number and the ID data are set, press the ESC key then the STEREO key.
- ② The ID number already set is displayed.
(It is also displayed on the FL display.)
- ③ Enter a 9-digit number for comparison. This is not required when you only wish to check the ID number visually.
(The number is also displayed on the FL display.)
- ④ By pressing the CLEAR key without having input a number, you can exit this mode. Each press of this key after a number has been input deletes one digit.

• Indication of an ID number already set

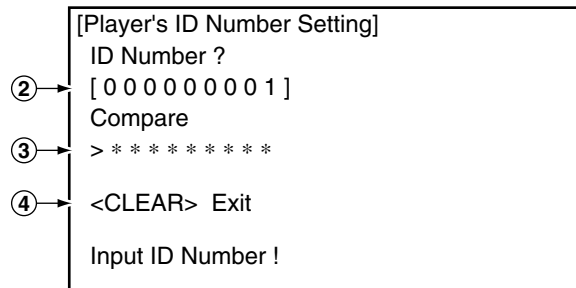
An ID number already set is displayed in the following cases:

- 1) When the ESC key then the CLEAR key are pressed, user settings are cleared, then the ID number set is displayed on the screen. In this case, the ID number is not displayed on the FL display.
- 2) When the unit enters ID Number Confirmation Mode by your pressing the ESC key then the CLEAR key, the ID number set is displayed. In this case, the ID number is also displayed on the FL display.

If you only need to confirm the ID number, you can exit this mode by pressing the CLEAR key or turning off the power.

• Indication when no ID number is set

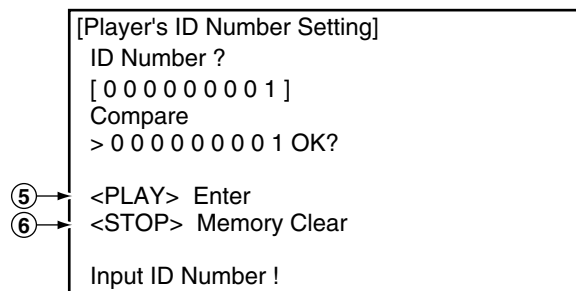
If no ID number is set, the message "No ID Number!" flashes on the screen and FL display for a few seconds after the power is turned on or during Stop mode.



- ⑤ After entering all 9 digits, if you press the PLAY key, the unit compares the number entered in Step ② with the ID number set, and only if the numbers match, the unit automatically exits ID Number Confirmation Mode. If an ID data has not been entered, the unit enters ID DATA Input Mode. If the numbers do not match, the disc tray is opened, and the unit exits ID Number Confirmation Mode.

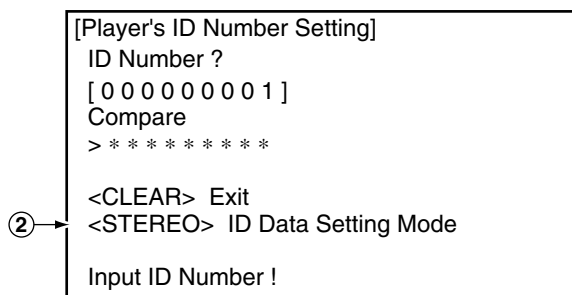
Note: If you press the PLAY button before inputting a 9-digit ID number, the unit returns to Step ④ without doing anything else.

- ⑥ After entering all 9 digits, if you press the STOP key, the unit compares the number entered in Step ③ with the ID number set, and only if the numbers match, the unit automatically deletes the ID number and exits this mode. If the numbers do not match, the disc tray is opened, and the unit exits this mode. (The STOP key is not accepted after all 9 digits have been entered.)

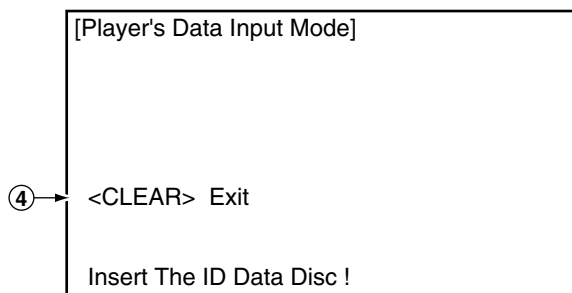


■ ID DATA Input Mode

- ① To enter ID DATA Input Mode, with the ID number set, press the ESC key then the STEREO key.
- ② When the STEREO key is pressed, the unit enters ID DATA Input Mode.

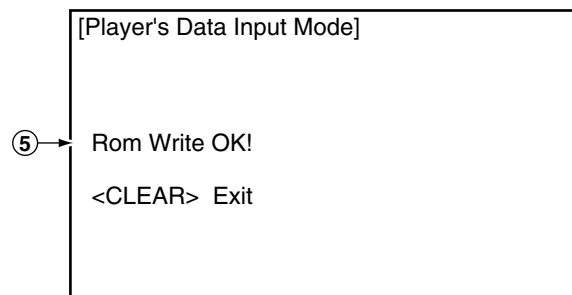


- ③ If the DVD DATA DISC (GGV1085) is loaded in this mode, the unit automatically starts reading the data. (If the DVD DATA DISC has already been loaded, the unit does not start reading the data. In this case, open then close the tray.)
- ④ To exit this mode, press the CLEAR key. While data are being read from the DVD DATA DISC (GGV1085), you cannot exit this

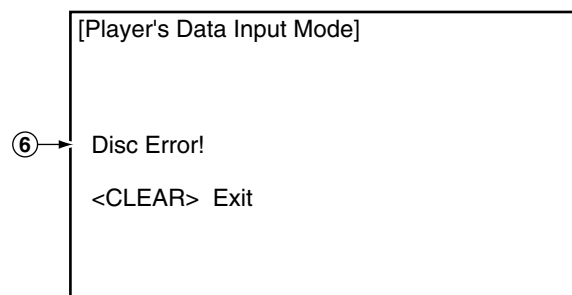


- ⑤ When writing of the data read from the disc to flash ROM is completed, "Rom Write OK!" is displayed. After seeing this message, you can exit this mode by pressing the CLEAR key.

Note: Whether or not the data have been written to flash ROM can be confirmed by watching for the message "Rom Write OK!" being displayed after the disc is read.



- ⑥ If the data cannot be read from the disc, "Disc Error!" is displayed on the screen, and the disc is ejected.

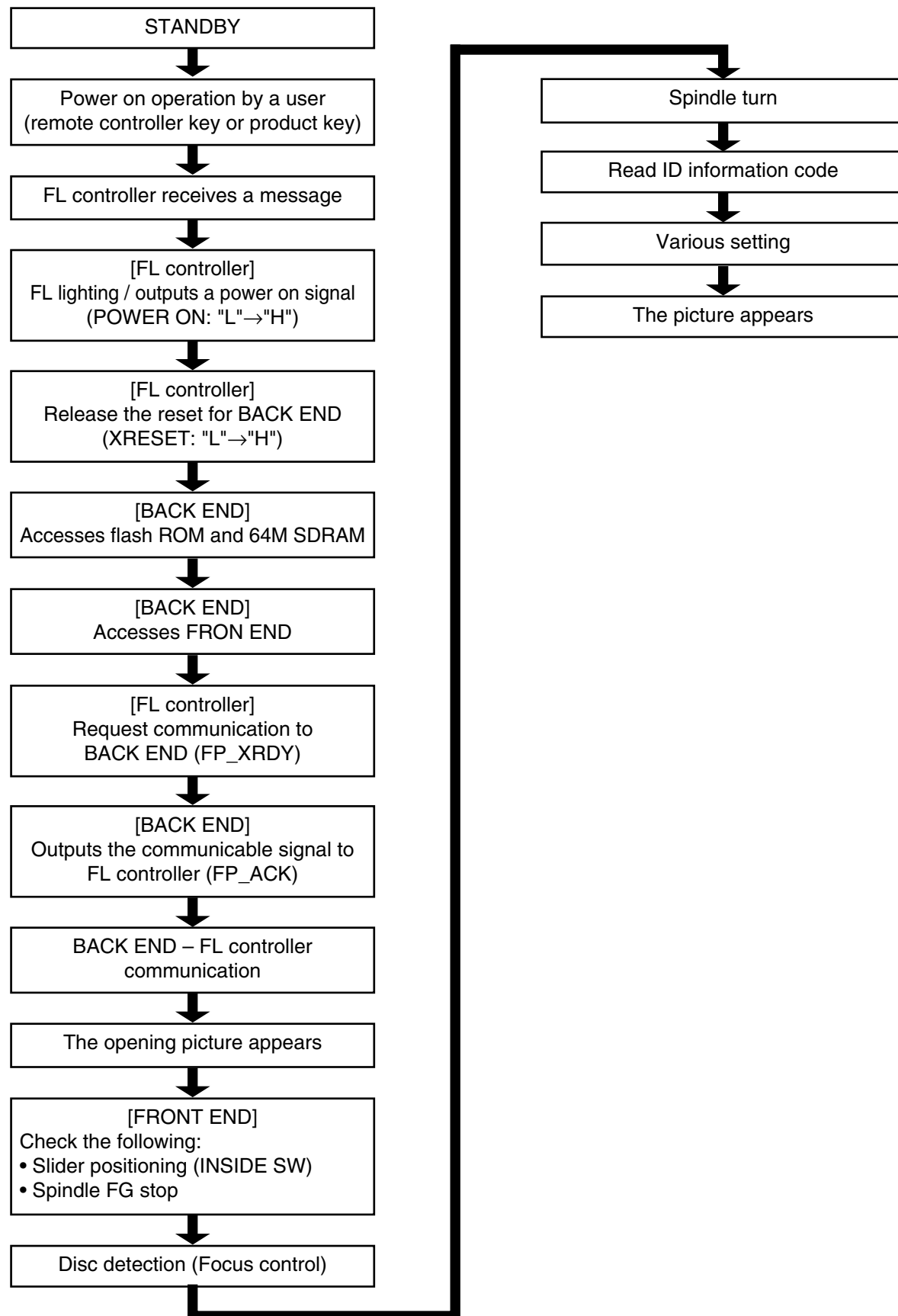


• Indication when the data have not been set

If no ID data are set after the ID number is changed, the message "NO ID DATA" flashes on the screen and FL display for a few seconds after the power is turned on or during Stop mode.

7.1.8 SEQUENCE AFTER POWER ON

Flow chart from power on to the picture output







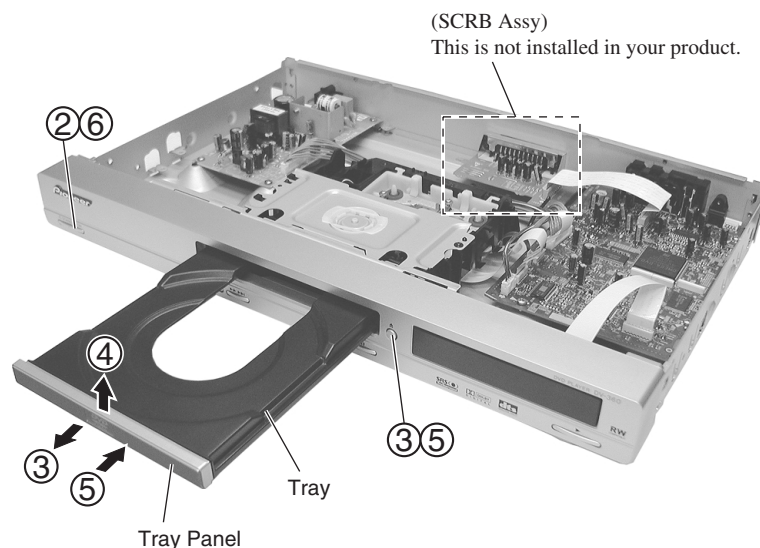
7.1.9 DISASSEMBLY

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Diagnosis of the DVDM Assy

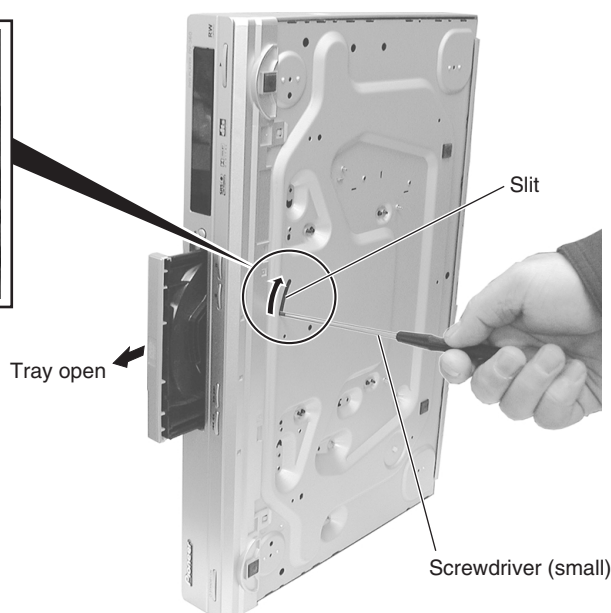
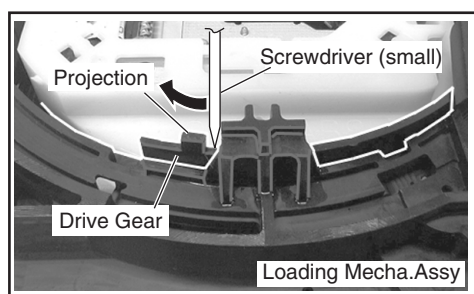
1 Bonnet and Tray Panel

- ① Remove the Bonnet by removing the five screws.
- ② Press the  STANDBY/ON button to turn on the power.
- ③ Press the  button to open the Tray.
- ④ Remove the Tray Panel.
- ⑤ Press the  button to close the Tray.
- ⑥ Press the  STANDBY/ON button to turn off the power.



How to open the Tray when the power cannot be on

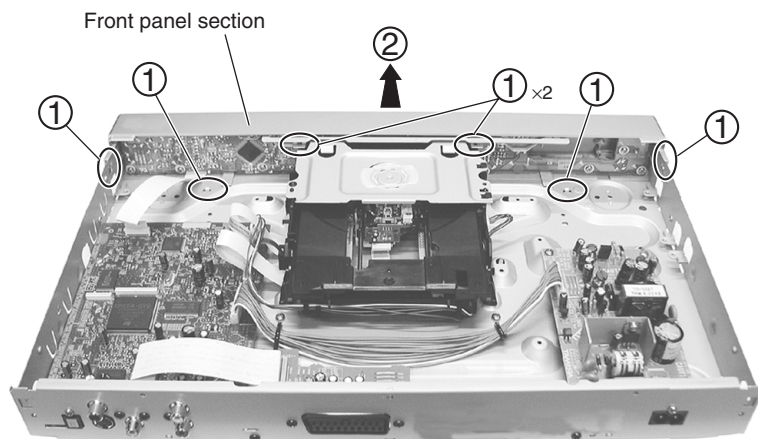
Insert a screwdriver (small) into the slit located at the bottom of the unit, and slide the projection of the Drive Gear in the Loading Mecha. Assy in the direction of the arrow, as indicated in the photo. If the Tray pops out a little, fully pull it out by hand.



2 Front Panel Section

① Remove the six hooks.

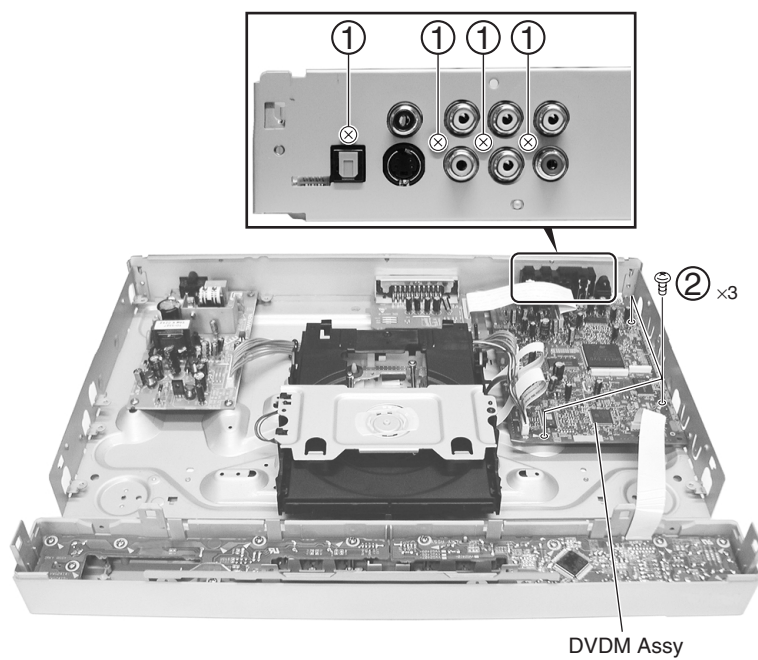
② Remove the front panel section.



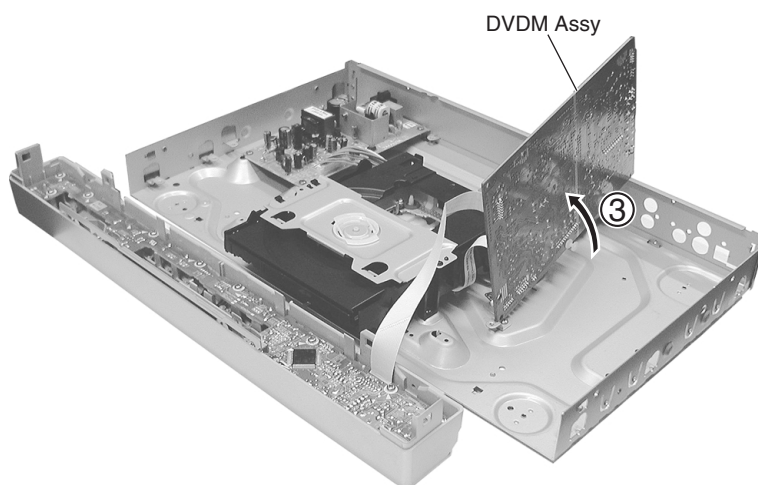
3 DVDM Assy

① Remove the four screws.

② Remove the three screws.



③ Remove the DVDM Assy and stand it against the other parts.



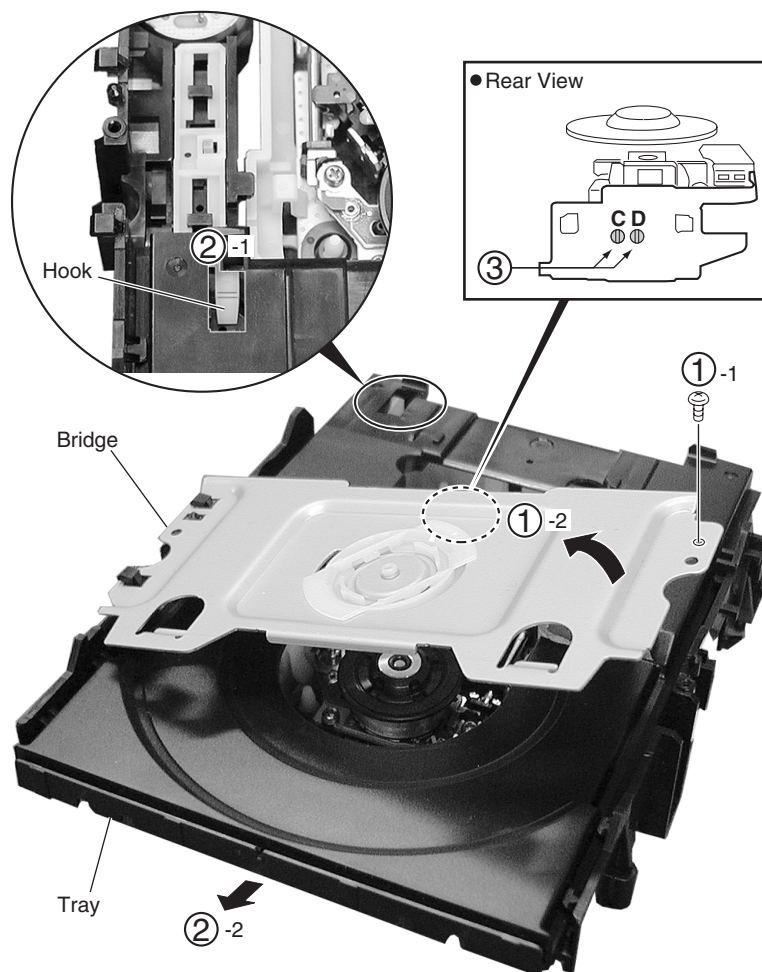
Removing the Traverse Mecha. Assy-S and Pickup Assy-S

1 Loading Mecha. Assy

- ① Remove the bridge by removing the one screw.
- ② Pull out the tray, then remove it by pressing the hook.
- ③ Short-circuit two points of C and D by soldering.

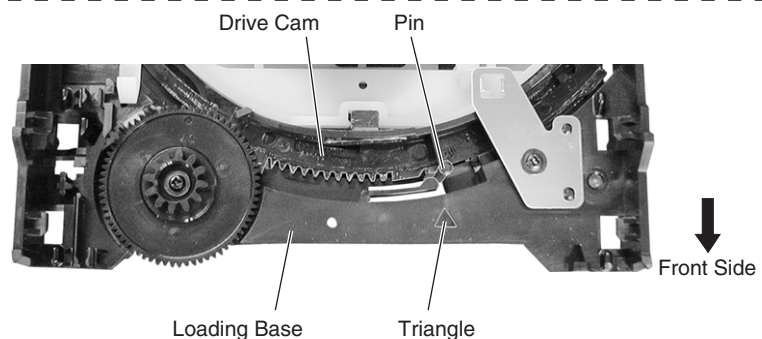
Note: After replacement, connect the flexible cable, then remove the soldered joint (open).

- ④ Remove the four connectors from the Loading Mecha. Assy.
- ⑤ Remove the four screws that secure the Loading Mecha. Assy to the unit.



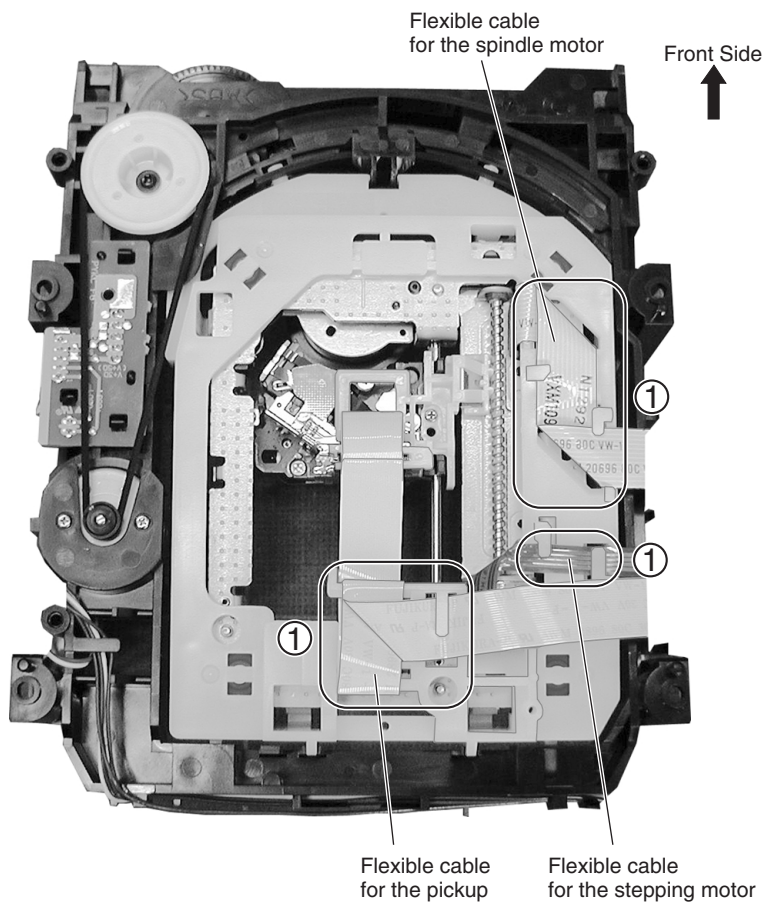
Note when reinserting the Tray

When reinserting the Tray, first align the triangle printed on the Loading Base and the pin of the Drive Cam, then insert the Tray.



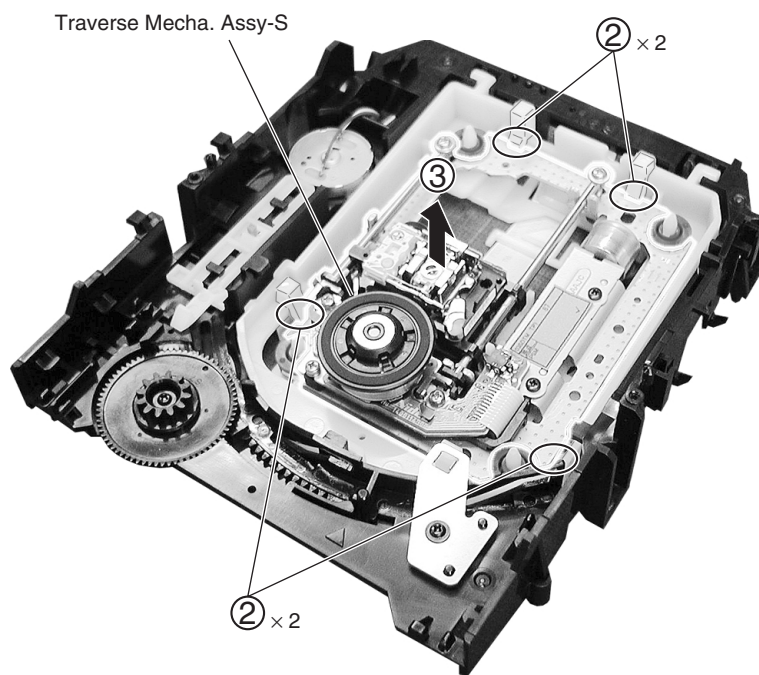
2 Traverse Mecha. Assy-S

- ① Dislodge the flexible cables from their factory placement.



● Bottom View

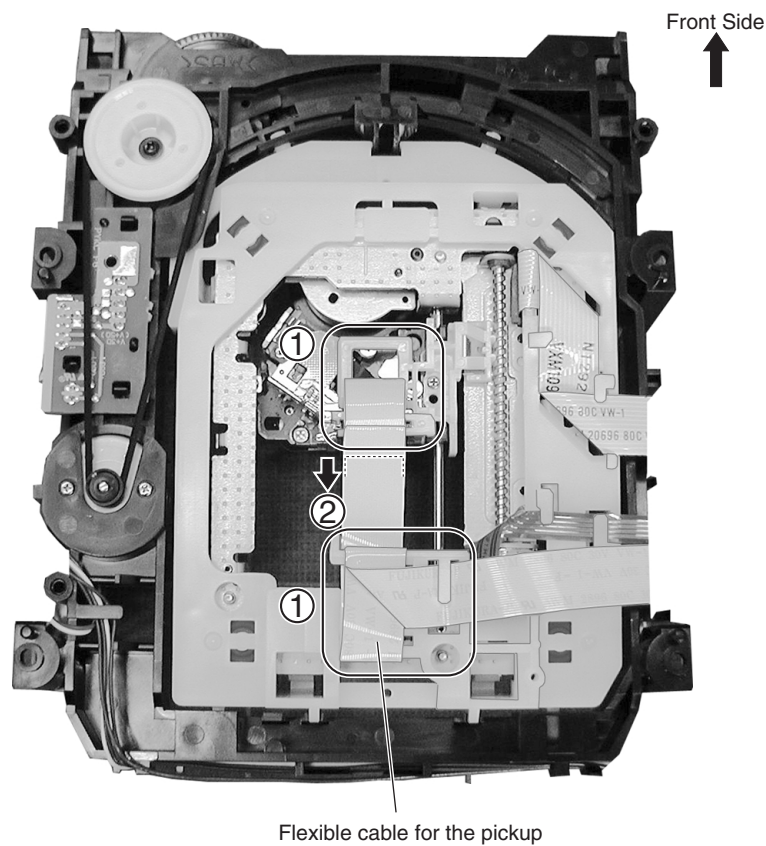
- ② Remove the four hooks.
- ③ Remove the Traverse Mecha. Assy-S.



3 Pickup Assy-S

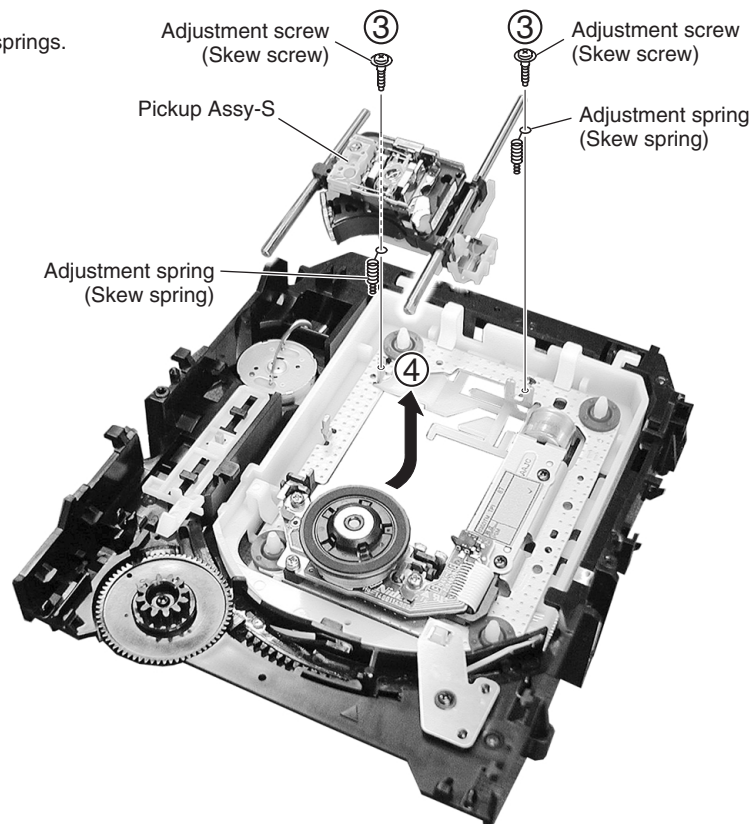
Note: The Pickup Assy-S can be removed without removing the Traverse Mecha. Assy-S. (shown as Step 2.)

- ① Dislodge the flexible cable for the pickup from its packaged placement.
- ② Remove the flexible cable for the pickup.



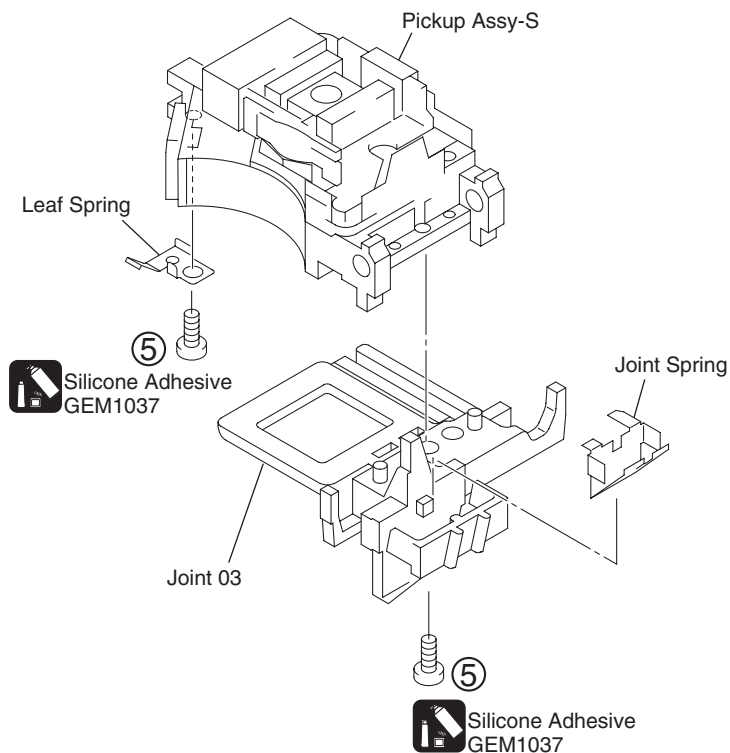
● Bottom View

- ③ Remove the two adjustment screws and two adjustment springs.
- ④ Remove the Pickup Assy-S.



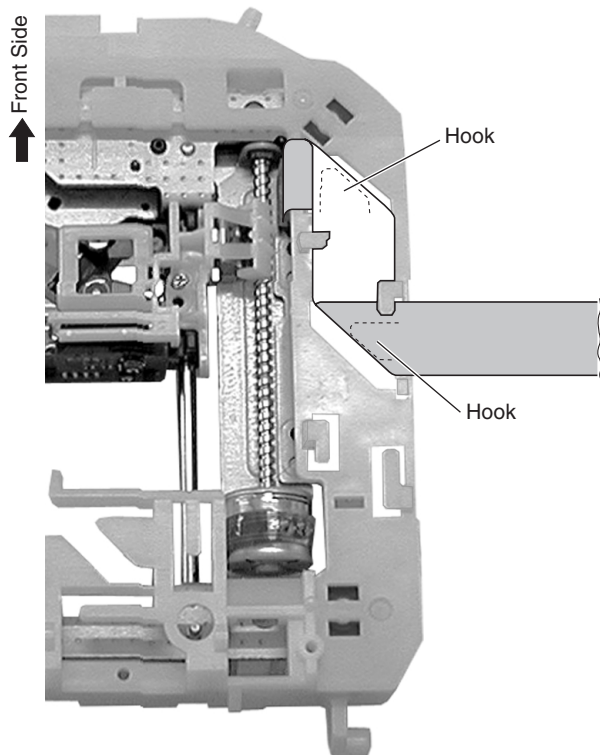
⑤ Remove the two screws.

Note: The screws are secured with epoxy.
Make sure to apply epoxy after reattaching
the screws.



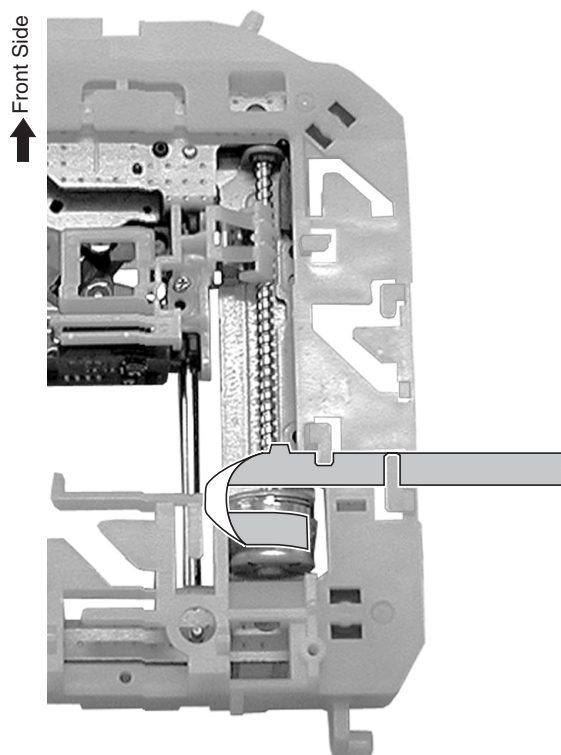
**Arrangement of the flexible cable
for the spindle motor**

■ : Conductive surface



**Arrangement of the flexible cable
for the stepping motor**

■ : Conductive surface



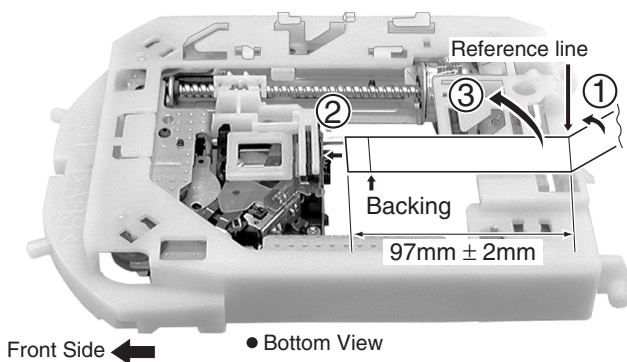
Arrangement of the flexible cable for the pickup

 : Conductive surface

Note:

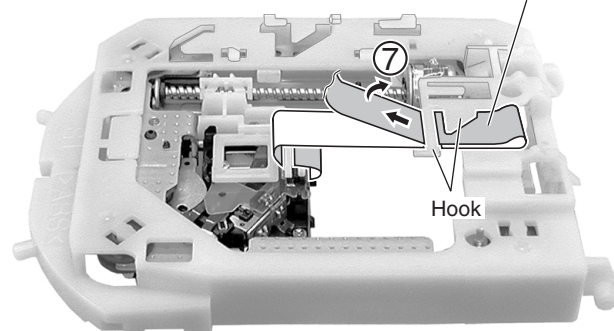
Be sure to move the Pickup Assy-S to the innermost perimeter.

- ① Fold the flexible cable inward at the position of the reference line.
- ② Attach the flexible cable of the pickup to the connector.
- ③ Fold the flexible cable of the pickup with the backing inward.



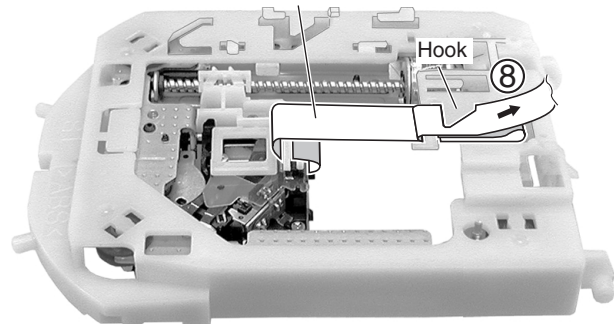
- ⑦ Pass the flexible cable below the hook, and fold it back.

Make sure that the cable does not have any slack

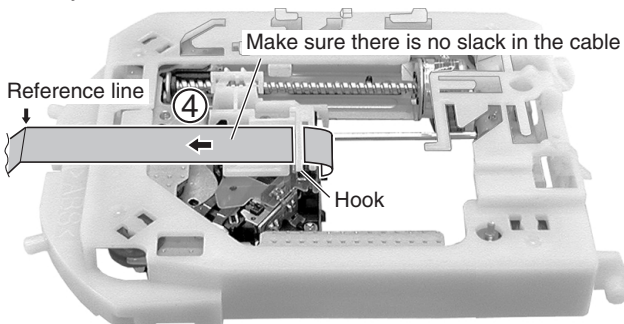


- ⑧ Fold the flexible cable back at the hook.

Make sure that the cable is loose

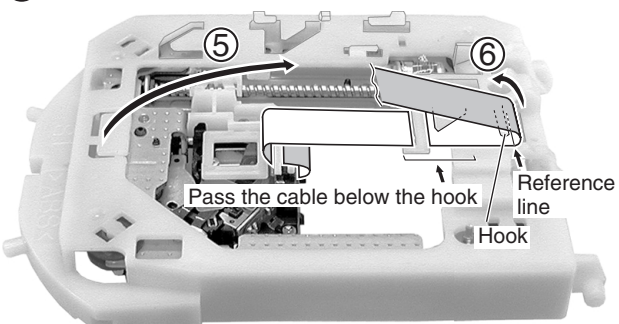


- ④ Pass the flexible cable through the hook not allowing any slack.

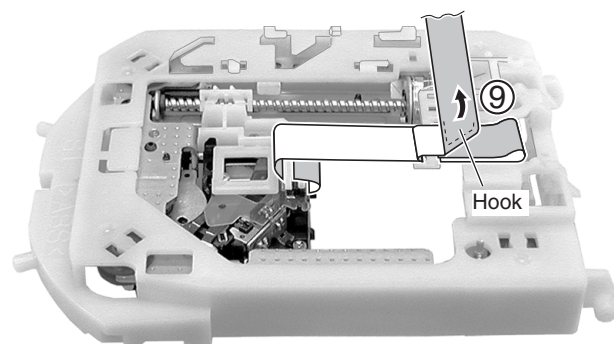


- ⑤ Fold the flexible cable as indicated in the photo.

- ⑥ Hook the part folded in Step ① to the hook.



- ⑨ Fold the flexible cable along the hook.



7.2 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

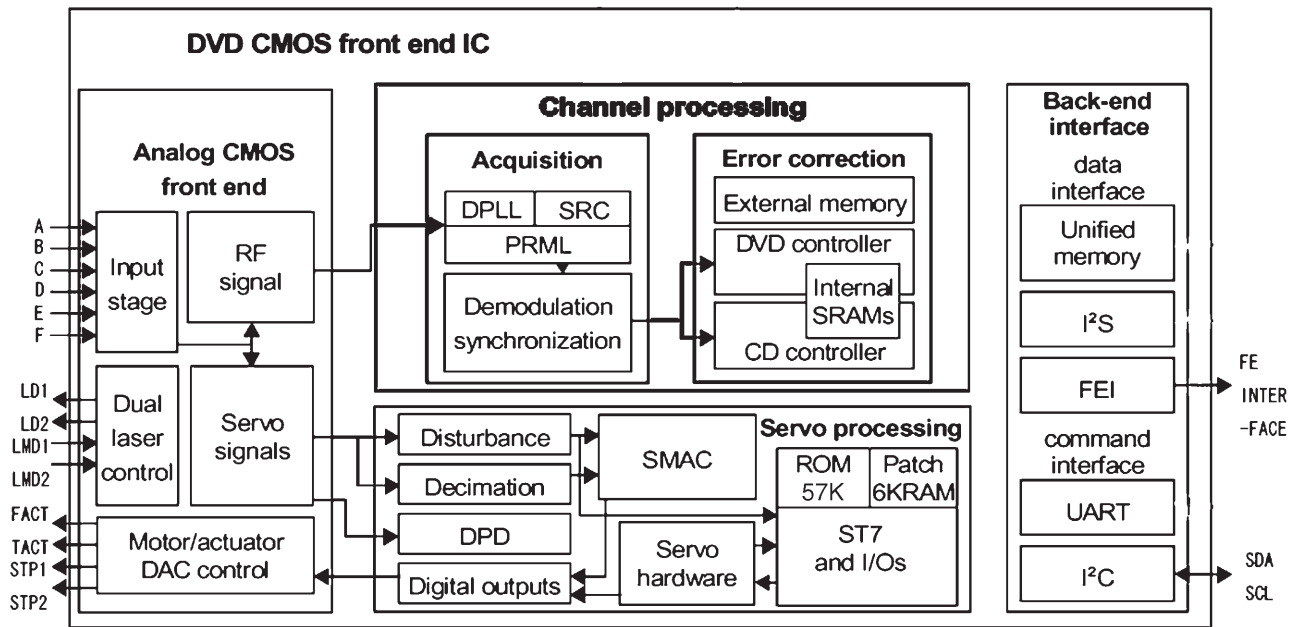
• List of IC

STM6316ATXXA, STM5589CVA, M63108FP, PE5374A

■ STM6316ATXXA (DVDM ASSY : IC301)

• FRONT END IC

● Block Diagram



● Pin Function

No.	PIN name	description	detail
1	IREF	12.7kF	Analog block reference part
2	GNDAI	GNDA	analog gnd
3	RFIN	capacitor	RF signal C association input to a demodulation block
4	RFOUT	capacitor	B1+B2+B3+B4 mixture listing from an analog block
5	VCCA18	1V8A	analog 1V8
6	A	B1	PU - B1 input
7	GNDMN	GNDA	analog gnd
8	B	B2	PU - B2 input
9	VCC33MN	3V3A	analog 3V3
10	REFD	to pick up	2V1 output for PU
11	VCC18MN	1V8A	analog 1V8
12	D	B4	PU - B4 input
13	VCCA18IS	1V8A	analog 1V8
14	C	B3	PU - B3 input
15	VCCA33IS	3V3A	analog 3V3
16	GND AIS	GNDA	analog gnd
17	VCC33SD	3V3A	analog 3V3
18	VCC18SD	1V8A	analog 1V8
19	GNDSD	GNDA	analog gnd
20	F	C	PU-3 beam C input
21	E	A	PU-3 beam A input
22	VSHIELDIS	GNDA	analog gnd
23	VCC18ADC	1V8A	analog 1V8
24	GNDADC	GNDA	analog gnd
25	VSHIELDADC	GNDA	analog gnd
26	VCC33DAC	3V3A	analog 3V3
27	GND DAC	GNDA	analog gnd
28	SPINDLE	560ohm(st2)	DAC current listing for stepper drive
29	SLEDGE	560ohm(st1)	DAC current listing for stepper drive
30	REFEXT	20K1%	Reference for DAC
31	REFGND	refext	analog gnd
32	REFDAC	560ohm1%	DAC reference
33	FACT	560ohm1%	DAC current listing for focus
34	TACT	560ohm1%	DAC current listing for tracking
35	VCC18DAC	1V8A	analog 1V8
36	PC0	FG	FG pulse input
37	PC1	PS	Driver control signal
38	PC2	tray SW1(open)	SW input for tray OPEN position
39	PC3	SB	Driver control signal
40	PC4	SLD position	Inside SW input

A

No.	PIN name	description	detail
41	VSS	GNDD	digital gnd
42	VDD33	3V3D	digital 3V3
43	PC5	780/X650	780nm/650nmLD change control signal
44	PC6	spinde PDM	Control PDM listing for spindle drive
45	PC7	opicgain	OEIC gain control signal
46	PD7	03PU/X02PU	Pull-up settlement
47	VSS	GNDD	digital gnd
48	VDD18	1V8D	digital 1V8
49	PD6	(debug)	test
50	PD5	(debug)	test
51	PD4	(DSPclk)	test
52	PD3	(DSPdata)	test
53	PD2	(DSPstrb1)	test
54	PD1	error monitor	Terminal for TRKG error monitor (30KHzLPF add need)
55	PD0	tray PDM drive	Control PDM signal for tray drive
56	VSS	GNDD	digital gnd
57	VDD33	3V3D	digital 3V3
58	OUT_ERR	RS_ERROR	BE DATA I/F
59	OUT_EVALID	RS_ERR_EN	BE DATA I/F
60	VSS	GNDD	digital gnd
61	OUT_CLK	RS_BCLK	BE DATA I/F
62	VDD18	1V8D	digital 1V8
63	OUT_DVALID	RS_DVALID	BE DATA I/F
64	OUT_DATA	RS_DATA	BE DATA I/F
65	OUT_SYNC	RS_ECCBST	BE DATA I/F
66	PE5	SCL(DMA)	FE routine download input
67	PE4	SDA(DMA)	FE routine download input
68	PE3	SCL	BE command I/F
69	PE2	SDA	BE command I/F
70	PE1	tray SW2(close)	SW input for tray CLOSE position
71	PE0	DXXINT	FE status propagation signal
72	VSS	GNDD	digital gnd
73	VDD33	3V3D	digital 3V3
74	PF1	10K-pullup	Built-in facility setting terminal
75	PF0	10K-pulldown	Built-in facility setting terminal
76	VSS	GNDD	digital gnd
77	VDD18	1V8D	digital 1V8
78	PG1	to EMULATOR	Built-in facility setting terminal
79	PG0	to EMULATOR	Built-in facility setting terminal
80	TEST	10K-pulldown	test

F

No.	PIN name	description	detail
81	RESET_N	RESET	RESET input
82	VSSADC	GNDA	analog gnd
83	VDD18ADC	1V8A	analog 1V8
84	GNDPLL	GNDA	analog gnd
85	PLLOFF	GNDA	analog gnd
86	FREOUT	20MXtal	SYSTEMCLK oscillating circuit
87	FREIN	20MXtal	SYSTEMCLK oscillating circuit
88	VCC18PLL	1V8A	analog 1V8
89	LD1	650nmLD	650nmLD driving signal
90	LD2	780nmLD	780nmLD driving signal
91	VCCA33	3V3A	digital 3V3
92	TWSEL	CD_VR/GND	Monitor diodes VR junction terminal for CD
93	LMD1	LMD/LMD1	Monitor voltage junction terminal
94	LMD2	DVD_VR/LMD2	Monitor diodes VR junction terminal for DVD
95	GNDL	GNDA	analog gnd
96	TST_PM	nc	test
97	TST_SLICE	nc	test
98	TST_ADC	nc	test
99	RFSACD	SACD_IC	RF signal output
100	VBGFILT	capacitor	Condenser junction terminal for inside reference stability

■ STM5589CVA (DVDM ASSY : IC601)

● BACK END IC

● Pin Function

No.	Pin Name	Dir.	Pin Function
1	FP_SO	OUT	Front Panel / DAC interface. Serial transfer data output.
2	A_DATA3	OUT	reserved
3	VCLK	OUT	reserved
4	VDD_3V3	-	3.3 V Power supply
5	VSS	-	Ground
6	B_DATA	OUT	reserved
7	B_BCLK	OUT	reserved
8	B_FLAG	OUT	reserved
9	TRYPOS	OUT	It is not connected except 5 Disc Changer.
		IN	Only 5 Disc Changer. Tray rotation pulse input. CAPTURE_IN0 can be used.
10	SQUEEZE	OUT	Output signal for S-Video output S1/S2 control. 'H' : squeeze output mode.
11	RTS	OUT	UART(RS-232C) Request To Send signal output.
12	LETTER	OUT	Output signal for S-Video output S1/S2 control & EURO(SCART) connector (FUNCTION SWITCHING) signal. 'H' : letter-box output mode.
13	CTS	IN	UART(RS-232C) Clear To Send signal input.
14	VDD_1V8	-	1.8 V Power supply
15	VSS	-	Ground
16	FE_DATA	IN	Front-End L6316 stream interface. Serial data input.
17	FE_BCLK	IN	Front-End L6316 stream interface. Serial clock input.
18	FE_DVALID	IN	Front-End L6316 stream interface. Data valid flag input.
19	FE_SYNC	IN	Front-End L6316 stream interface. Serial synchronize flag input.
20	FE_EVALID	IN	Front-End L6316 stream interface. Error valid flag for RS_split.
21	FE_ECCBST	IN	Front-End L6316 stream interface. ECC block start flag for RS_split.
22	I/XP	OUT	Output signal for a change of interlace/Progressive output for video driver. 'L' : progressive 'H' : interlace
23	VDD_RGB	-	RGB circuit 3.3 V Power supply
24	VSS_RGB	-	RGB circuit Ground
25	B_OUT	OUT	B / Cb
26	G_OUT	OUT	G / Y
27	R_OUT	OUT	R / Cr
28	VREF_RGB	IN	RGB DAC reference
29	IREF_RGB	IN	RGB DAC current reference
30	VDD_YCC	-	YC circuit 3.3 V Power supply
31	VSS_YCC	-	YC circuit Ground
32	Y_OUT	OUT	Y
33	C_OUT	OUT	C
34	CV_OUT	OUT	CV
35	VREF_YCC	IN	YCC DAC reference
36	IREF_YCC	IN	YCC DAC current reference
37	VDD_1V8	-	1.8 V Power supply
38	VSS	-	Ground

No.	Pin Name	Dir.	Pin Function
39	XDRVMUTE	OUT	It is not connected except 5 Disc Changer.
			Only 5 Disc Changer. Output signal for motor driver muting. 'L' : muting
40	OPEN	OUT	It is not connected except 5 Disc Changer.
		IN	Only 5 Disc Changer. Input signal for tray position. 'H' : complete OPEN position.
41	CLOSE	OUT	It is not connected except 5 Disc Changer.
		IN	Only 5 Disc Changer. Input signal for tray position. 'H' : complete CLOSE position.
42	CLAMP	OUT	It is not connected except 5 Disc Changer.
		IN	Only 5 Disc Changer. Input signal for showing disc clamp position. 'H' : complete disc clamp position.
43	UNCLAMP	OUT	It is not connected except 5 Disc Changer.
		IN	Only 5 Disc Changer. Input signal for showing disc un-clamp position. 'H' : complete disc clamp position.
44	DISC_SNS	OUT	It is not connected except 5 Disc Changer.
		IN	Only 5 Disc Changer. Input signal for disc existing. 'L' : existing
45	XDRVMUTE2	OUT	reserved
46	TP-x	OUT	reserved
47	VDD_3V3	-	3.3 V Power supply
48	VDD_PCM	-	1.8 V Power supply
49	VSS_PCM	-	Ground
50	VSS	-	Ground
51	A_BCK	OUT	Audio DAC clock
52	A_DATA0	OUT	Audio DAC Front L,R data
53	A_DATA1	OUT	reserved
54	A_DATA2	OUT	reserved
55	A_MCLK	OUT	Audio DAC Master clock
56	A_LRCK	OUT	Audio DAC L/R clock
57	A_DOUT	OUT	S/PDIF(IEC60958) digital audio output.
58	SMI_A4	OUT	SMI SDRAM Address
59	SMI_A5		
60	SMI_A6		
61	SMI_A7		
62	SMI_A8		
63	SMI_A9		
64	VDD_1V8	-	1.8 V Power supply
65	VSS	-	Ground
66	SMI_A3	OUT	SMI SDRAM Address
67	SMI_A2		
68	SMI_A1		
69	SMI_A0		
70	SMI_A10		
71	SMI_A11		
72	SMI_A12		
73	SMI_A13		

A

B

C

D

E

F

No.	Pin Name	Dir.	Pin Function
74	SMI_CS0	OUT	SMI SDRAM chip select 'L'.
75	SMI_CS1	OUT	reserved
76	SMI_RAS	OUT	SMI SDRAM RAS 'L'
77	SMI_CAS	OUT	SMI SDRAM CAS 'L'
78	SMI_WE	OUT	SMI SDRAM Write Enable 'L'
79	SMI_DQML	OUT	SMI SDRAM Lower DQM 'L': Lower select
80	SMI_DQMU	OUT	SMI SDRAM Upper DQM 'L': Upper select
81	VDD_3V3	-	3.3 V Power supply
82	SMI_CLKIN	IN	External SDRAM clock input.
83	VSS	-	Ground
84	SMI_D0	I/O	SMI SDRAM Data
85	SMI_D1		
86	SMI_D2		
87	SMI_D3		
88	SMI_D4		
89	SMI_D5		
90	SMI_D6		
91	SMI_D7		
92	SMI_D8		
93	SMI_D9		
94	VDD_1V8	-	1.8 V Power supply
95	SMI_CLKOUT	OUT	SDRAM clock output.
96	VSS	-	Ground
97	SMI_D10	I/O	SMI SDRAM Data
98	SMI_D11		
99	SMI_D12		
100	SMI_D13		
101	SMI_D14		
102	SMI_D15		
103	TRACK_CROSS	OUT	reserved
104	DSD_XPCM	OUT	reserved
105	DAC_XRST	OUT	reserved
106	ADC_PCMCLK	OUT	reserved
107	VDD_3V3	-	3.3 V Power supply
108	VSS	-	Ground
109	XTRST	IN	Diagnostic Control Unit interface
110	TMS	IN	Diagnostic Control Unit interface
111	TDO	OUT	Diagnostic Control Unit interface
112	TDI	IN	Diagnostic Control Unit interface
113	TCK	IN	Diagnostic Control Unit interface
114	ROTDRV	OUT	Only 5 disc changer. PWM output for tray rotation.
115	BOOT_FROM_ROM	IN	Boot select 'L' : Boot from DCU. 'H' : Boot form ROM.
116	LOAD_DRV	OUT	Only 5 disc changer. PWM output for tray Open/Close drive.
117	CPU_OE	OUT	OE signal for 16M bits FLASH memory for firmware. 'L': enable

No.	Pin Name	Dir.	Pin Function
118	CPU_SDCK	OUT	CLOCK for 64M bits SDRAM for debugging firmware.
119	VDD_1V8	-	1.8 V Power supply
120	PIXCLK	IN	Master 27MHz system clock input.
121	VSS	-	Ground
122	VDD_PLL	-	Clock PLL circuit 1.8 V Power supply
123	VSS_PLL	-	Clock PLL circuit Ground
124	XRESET	IN	Power ON system RESET signal. 'L': reset
125	SACD_IRQ	IN	reserved
126	FP_XRDY	IN	Front Panel interface. Hand-shake input.
127	FE_INT	IN	Interrupt input signal from Front-End L6316.
128	F_XWE, SD_DQML	OUT	Flash memory write enable. Debug SDRAM/SRAM Lower DQM. 'L': enable, Lower select.
129	SD_DQMU	OUT	Debug SDRAM/SRAM Upper DQM 'L':upper select
130	SD_RXW	OUT	Debug SDRAM Read/Write 'L':write, 'H':read
131	CPU_WAIT	IN	CPU wait 'H' input
132	CE_FLASH	OUT	Flash memory Chip Enable 'L'.
133	CPU_CE2	OUT	reserved
134	CPU_CE1	OUT	reserved
135	SD_XRAS	OUT	Debug SDRAM RAS 'L' Debug SRAM chip enable 'L'
136	VDD_3V3	-	3.3 V Power supply
137	VSS	-	Ground
138	CPU_RAS1	OUT	reserved
139	SD_XCAS	OUT	Debug SDRAM CAS 'L'
140	SD_XCS	OUT	Debug SDRAM Chip Select 'L'
141	CPU_D0	I/O	FLASH, Debug SDRAM/SRAM data
142	CPU_D1		
143	CPU_D2		
144	CPU_D3		
145	CPU_D4		
146	CPU_D5		
147	CPU_D6		
148	CPU_D7		
149	VDD_1V8	-	1.8 V Power supply
150	VSS	-	Ground
151	CPU_D8	I/O	FLASH, Debug SDRAM/SRAM data
152	CPU_D9		
153	CPU_D10		
154	CPU_D11		
155	CPU_D12		
156	CPU_D13		
157	CPU_D14		
158	CPU_D15		
159	VDD_3V3	-	3.3 V Power supply
160	VSS	-	Ground

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No.	Pin Name	Dir.	Pin Function
161	CPU_A1	OUT	FLASH, Debug SDRAM/SRAM Address
162	CPU_A2		
163	CPU_A3		
164	CPU_A4		
165	CPU_A5		
166	CPU_A6		
167	CPU_A7		
168	CPU_A8		
169	CPU_A9		
170	CPU_A10		
171	VDD_1V8	-	1.8 V Power supply
172	VSS	-	Ground
173	CPU_A11	OUT	FLASH, Debug SDRAM/SRAM Address
174	CPU_A12		
175	CPU_A13		
176	CPU_A14		
177	CPU_A15		
178	CPU_A16		
179	CPU_A17		
180	CPU_A18		
181	CPU_A19		
182	CPU_A20		
183	CPU_A21		
184	VDD_3V3	-	3.3 V Power supply
185	VSS	-	Ground
186	XEXPE	OUT	reserved
187	FE_ERROR	IN	Front-End L6316 stream interface. ECC Error flag
188	VSEL1	OUT	EURO(SCART) connector (BLINKING) output signal 'L' : RGB output disable 'H' : RGB output enable
189	VSEL2	OUT	EURO(SCART) connector V/Y, R/C signal. 'L' : VRGB output = YCGB 'H' : VRGB output = VRGB
190	FE_RST	OUT	Front-End L6316. Hardware reset output. 'L' : reset
191	SACD_XRST	OUT	reserved
192	XMMUTE	OUT	reserved
193	B_SYNC	OUT	reserved
194	SDA	I/O	Front-End L6316 command interface I2C bus serial data line.
195	SCL	OUT	Front-End L6316 command interface I2C bus serial clock line.
196	B_WCLK	OUT	reserved
197	TXD	OUT	UART(RS-232C) data output
198	VDD_1V8		1.8 V Power supply
199	VSS	-	Ground
200	RXD	IN	UART(RS-232C) data input

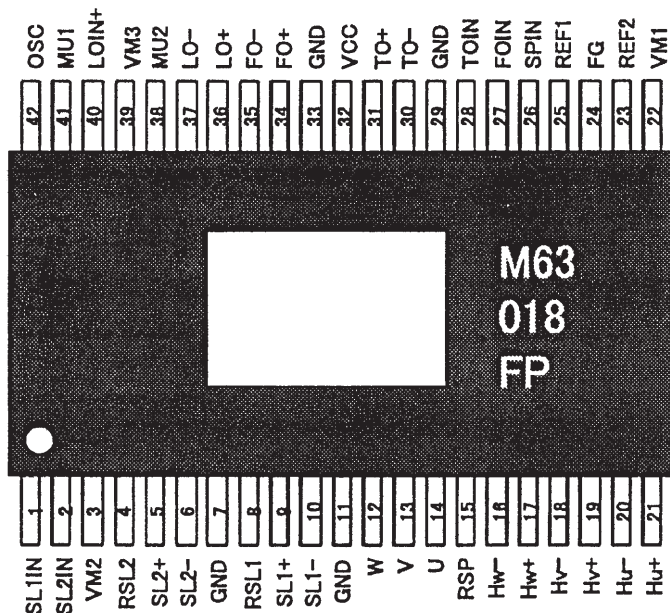
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No.	Pin Name	Dir.	Pin Function
201	XAMUTE	OUT	Output signal for analog audio output line muting. 'L' : muting
202	TRIGIN	IN	Diagnostic Control Unit interface
203	TRIGOUT	OUT	Diagnostic Control Unit interface
204	DAC_XCS0	OUT	Chip enable for audio DAC serial control. 'L' : enable
205	DAC_XCS1	OUT	reserved
206	FP_ACK	OUT	Front Panel / DAC interface. Hand-shake (acknowledge) output 'H'.
207	FP_SCK	OUT	Front Panel / DAC interface. Serial transfer clock output.
208	FP_SI	IN	Front Panel interface. Serial transfer data input.

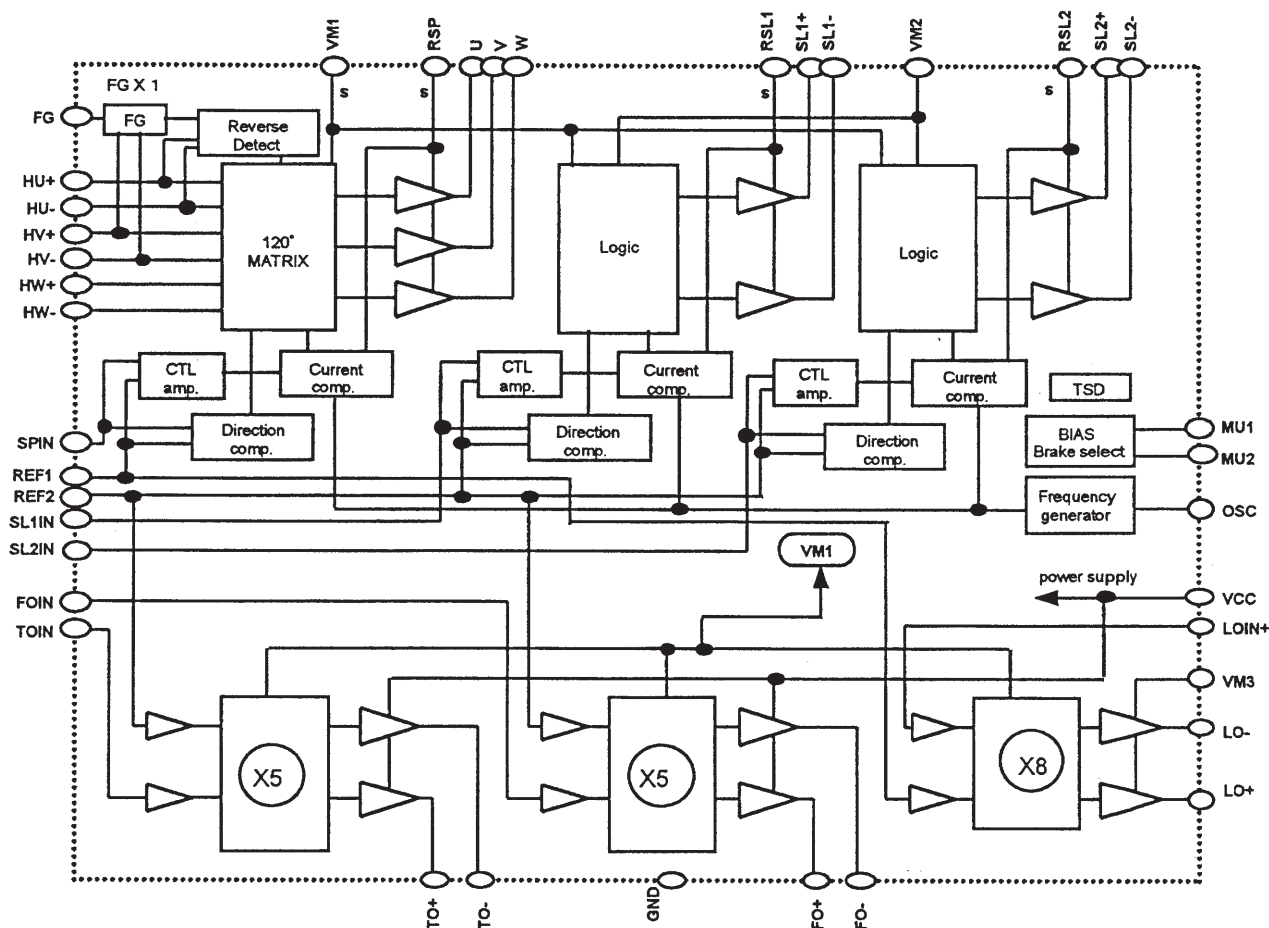
M63018FP (DVD M ASSY : IC101)

• BTL Driver IC

Pin Arrangement



Block Diagram



● Pin Function

TERMINAL	SYMBOL	TERMINAL FUNCTION	TERMINAL	SYMBOL	TERMINAL FUNCTION
1	SL1IN	Slide control voltage input 1	4 2	OSC	PWM carrier oscillation set
2	SL2IN	Slide control voltage input 2	4 1	MU1	mute / brake select terminal 1
3	VM2	Motor Power Supply 2 (for Slide)	4 0	LOIN+	Loading control input(+)
4	RSL2	Slide current sense 2	3 9	VM3	Power Supply3 (for Loading)
5	SL2+	Slide non-inverted output 2	3 8	MU2	mute / brake select terminal 2
6	SL2-	Slide inverted output 2	3 7	LO-	Loading inverted output
7	GND	GND	3 6	LO+	Loading non-inverted output
8	RSL1	Slide current sense 1	3 5	FO-	Focus inverted output
9	SL1+	Slide non-inverted output 1	3 4	FO+	Focus non-inverted output
1 0	SL1-	Slide inverted output 1	3 3	GND	GND
1 1	GND	GND	3 2	VCC	Power Supply (for FS ,TS)
1 2	W	Motor drive output W	3 1	TO+	Tracking non-inverted output
1 3	V	Motor drive output V	3 0	TO-	Tracking inverted output
1 4	U	Motor drive output U	2 9	GND	GND
1 5	RSP	Spindle current sense	2 8	TOIN	Tracking control voltage input
1 6	HW-	HW- sensor amp. input	2 7	FOIN	Focus control voltage input
1 7	HW+	HW+ sensor amp. input	2 6	SPIN	Spindle control voltage input
1 8	HV-	HV- sensor amp. input	2 5	REF1	Reference voltage input 1 (for Spindle,Loading)
1 9	HV+	HV+ sensor amp. input	2 4	FG	Frequency generator output
2 0	HU-	HU- sensor amp. input	2 3	REF2	Reference voltage input 2 (for Slide,Focus,Tracking)
2 1	HU+	HU+ sensor amp. input	2 2	VM1	Motor Power Supply 1 (for Spindle)

■ PE5374A (FLKY ASSY : IC101)

• FL Control IC

● Pin Function

No.	Pin Name	I/O	Function
1	VDD1	–	Positive Power Supply (3.3 V)
2	VSS1	–	Ground Potential
3	X1	IN	Crystal Connection for Main System Clock Oscillation
4	X2	–	
5	IC	–	Internally Connected (Directly connect to VSS1)
6	RESET	IN	Reset Input
7	SCK1	IN	Serial Clock Input of Serial Interface
8	SI1	IN	Serial Data Input of Serial Interface
9	SO1	OUT	Serial Data Output of Serial Interface
10	XRDY	OUT	Hand-shake (Ready) Output of Serial Interface
11	POWER ON	OUT	Power Control Output
12	RESET OUT	OUT	System Reset Output
13	RESERVE OUT	OUT	Reserved (NC on this model)
14	NC	OUT	NC
15	HALT	IN	Halt Port "NC" : Use Halt Mode
16	ACK	IN	Hand-shake (Acknowledge) Input of Serial Interface
17	SEL IR	IN	Remote Control Input (Timer input of 8-bit remote control timer)
18	AVSS	–	Ground Potential for A/D Converter
19	NC	IN	8 digit model(DV-260,263) : Key3 Input (Analog input for A/D converter)
20	KEY2	IN	Key Input 2 (Analog input for A/D converter)
21	KEY1	IN	Key Input 1 (Analog input for A/D converter)
22	KEY0	IN	Key Input 0 (Analog input for A/D converter)
23	VSS0	–	Ground Potential to Ports
24	AVDD	–	Analog Power/Reference Voltage Input to A/D Converter (3.3 V)
25	VDD0	–	Positive Power Supply to Ports (3.3 V)
26	MS0_2	IN	Model (of player) Select (Set with a combination of this 3 ports)
27	MS0_1	IN	
28	MS0_0	IN	
29	MS1_2	IN	Destination (of player) Select (Set with a combination of this 3 ports)
30	MS1_1	IN	
31	MS1_0	IN	
32	TES	IN	H" : No System Reset mode , "L" : General mode
33	OEM	IN	H" : OEM Model , "L" : Pioneer Model
34	MIC IN	IN	Detection of Microphone "H" : Microphone connected
35	CHECKER	IN	H" : Checker Mode "L" : General Mode
36	ON POWER	IN	H" : Primary Power Switch Model , "L" : Secondary Power Switch Model
37	FL SET2	IN	FL-Controller Mode Select FL SET1 / 2 = "L" / "L" : 8 digit model
38	FL SET1	IN	
39	TEST2	OUT	(Test Port)
40	STAND BY LED	OUT	Stand By LED Port

No.	Pin Name	I/O	Function
41	LED5	OUT	LED Port 5
42	LED4	OUT	LED Port 4
43	LED3	OUT	LED Port 3
44	LED2	OUT	LED Port 2
45	LED1	OUT	LED Port 1
46	LED0	OUT	LED Port 0
47	TEST1	OUT	(Test Port)
48	TEST0	OUT	(Test Port)
49	NC	OUT	NC
50	NC	OUT	NC
51	P16	OUT	FIP Segment 17 Output
52	P15	OUT	FIP Segment 16 Output
53	NC	OUT	FIP Segment 15 Output
54	P14	OUT	FIP Segment 14 Output
55	P13	OUT	FIP Segment 13 Output
56	P12	OUT	FIP Segment 12 Output
57	P11	OUT	FIP Segment 11 Output
58	P10	OUT	FIP Segment 10 Output
59	VDD2	–	Positive Power Supply to FIP Controller/Driver (3.3 V)
60	VLOAD	–	Pull-down Resistor Connection of FIP Controller/Driver (-28V)
61	P9	OUT	FIP Segment 9 Output
62	P8	OUT	FIP Segment 8 Output
63	P7	OUT	FIP Segment 7 Output
64	P6	OUT	FIP Segment 6 Output
65	P5	OUT	FIP Segment 5 Output
66	P4	OUT	FIP Segment 4 Output
67	P3	OUT	FIP Segment 3 Output
68	P2	OUT	FIP Segment 2 Output
69	P1	OUT	FIP Segment 1 Output
70	NC	OUT	FIP Grid 11 Output
71	NC	OUT	FIP Grid 10 Output
72	NC	OUT	FIP Grid 9 Output
73	G8	OUT	FIP Grid 8 Output
74	G7	OUT	FIP Grid 7 Output
75	G6	OUT	FIP Grid 6 Output
76	G5	OUT	FIP Grid 5 Output
77	G4	OUT	FIP Grid 4 Output
78	G3	OUT	FIP Grid 3 Output
79	G2	OUT	FIP Grid 2 Output
80	G1	OUT	FIP Grid 1 Output


7.3 DISC / CONTENT FORMAT PLAYBACK COMPATIBILITY

Disc / content format playback compatibility

General disc compatibility

This player was designed and engineered to be compatible with software bearing one or more of the following logos:



- KODAK Picture CD
-  is a trademark of Fuji Photo Film Co. Ltd.

This player supports the IEC's Super VCD standard. Compared to the Video CD standard, Super VCD offers superior picture quality, and allows two stereo soundtracks to be recorded. Super VCD also supports the widescreen size.



Other formats, including but not limited to the following, are not playable in this player:

DVD-Audio / SACD / DVD-RAM DVD-ROM / CD-ROM*

- * Except those that contain MP3, WMA or JPEG. See also Compressed audio compatibility and JPEG file compatibility below.

DVD-R/RW and CD-R/RW discs (Audio CDs and Video CD/Super VCDs) recorded using a DVD recorder, CD recorder or personal computer may not be playable on this unit. This may be caused by a number of possibilities, including but not limited to: the type of disc used; the type of recording; damage, dirt or condensation on either the disc or the player's pick-up lens. See below for notes about particular software and formats.

CD-R/RW compatibility

- This unit will play CD-R and CD-RW discs recorded in CD Audio or Video CD/Super VCD format, or as a CD-ROM containing MP3, WMA or JPEG files. However, any other content may cause the disc not to play, or create noise/distortion in the output.
- This unit cannot record CD-R or CD-RW discs.
- Unfinalized CD-R/RW discs recorded as CD Audio can be played, but the full Table of Contents (playing time, etc.) will not be displayed.

DVD-R/RW compatibility

- This unit will play DVD-R/RW discs recorded using the DVD-Video format that have been finalized using a DVD-recorder.
- This unit will play DVD-RW discs recorded using the Video Recording (VR) format.
- **DVD-RW** shows in the display when a VR format DVD-RW disc is loading.

- When playing a VR format DVD-RW discs that was edited on a DVD recorder, the screen may go momentarily black at edited points and/or you may see scenes from immediately before the edited point.
- This unit cannot record DVD-R/RW discs.
- Unfinalized DVD-R/RW discs cannot be played in this player.

PC-created disc compatibility

- If you record a disc using a personal computer, even if it is recorded in a "compatible format" as listed above, there will be cases in which the disc may not be playable in this machine due to the setting of the application software used to create the disc. In these particular instances, check with the software publisher for more detailed information.
- Check the DVD-R/RW or CD-R/RW software disc boxes for additional compatibility information.

About WMA



The Windows Media™ logo printed on the box indicates that this player can playback WMA data.

WMA is short for Windows Media Audio and refers to an audio compression technology developed by Microsoft Corporation. WMA data can be encoded by using Windows Media Player version 8 (or less) or Windows Media Player for Windows XP.

Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

Compressed audio compatibility

- This unit will play CD-ROM, CD-R, and CD-RW discs containing files saved in the MPEG-1 Audio Layer 3 (MP3) or Windows Media Audio (WMA) format with a sampling rate of 32*, 44.1 or 48kHz. Incompatible files will not play and the message **Can't play this format** will be displayed (**NO PLAY** in the front panel display).
 - * This unit will not play 32kHz WMA files encoded at 20kbps.
- Fixed bit-rate MP3 files are recommended. Variable bit-rate (VBR) MP3 files are playable, but playing time may not be shown correctly.
- This player is compatible with WMA data encoded using Windows Media Player version 8 (or less) or Windows Media Player for Windows XP.
- This player is not compatible with lossless-encoding or variable bit-rate (VBR) WMA files.
- WMA files encoded with DRM (Digital Rights Management) copy protection will not play and the message **Can't play this format** will be displayed (**NO PLAY** in the front panel display).

- The CD-ROM used to compile your WMA/MP3 files must be ISO 9660 Level 1 or 2 compliant. CD physical format: Mode1, Mode2 XA Form1. Romeo and Joliet file systems are both compatible with this player.

- Use CD-R or CD-RW media for recording your files. The disc must be finalized (i.e. the session must be closed) in order to play in this unit. This player is not compatible with multi-session discs. Only the first session of a multi-session disc will be recognized.

- This player only plays tracks that are named with the file extension .mp3, .MP3, .wma, or .WMA.

- When naming MP3 and WMA files, add the corresponding file name extension (.mp3 or .wma). Files are played according to the file extension. To prevent noise and malfunctions, do not use these extensions for other kinds of files.

- This player can recognize up to 999 files (WMA/MP3/JPEG) and up to 499 folders. If a disc exceeds these limits, only files and folders up to these limits will be playable. Files and folders are read/displayed in alphabetical order. Note that if the file structure is very complex, you may not be able to read/play all files on the disc.

- Folder and track names (excluding the file extension) are displayed.

- There are many different recording bit-rates available to encode MP3 files. This unit was designed to be compatible with all of them. Audio encoded at 128Kbps should sound close to regular CD Audio quality. This player will play lower bit-rate files, but please note that the sound quality becomes noticeably worse at lower bit-rates.

JPEG file compatibility

- Baseline JPEG and EXIF 2.1* still image files up to 8 mega-pixels are supported (maximum vertical and horizontal resolution is 5120 pixels). (*File format used by digital still cameras)
- The CD-ROM used to compile your JPEG files must be ISO 9660 Level 1 or 2 compliant. CD physical format: Mode1, Mode2 XA Form1. Romeo and Joliet file systems are both compatible with this player.
- This player only displays files that are named with the file extension .jpg or .JPG.

7.4 CLEANING

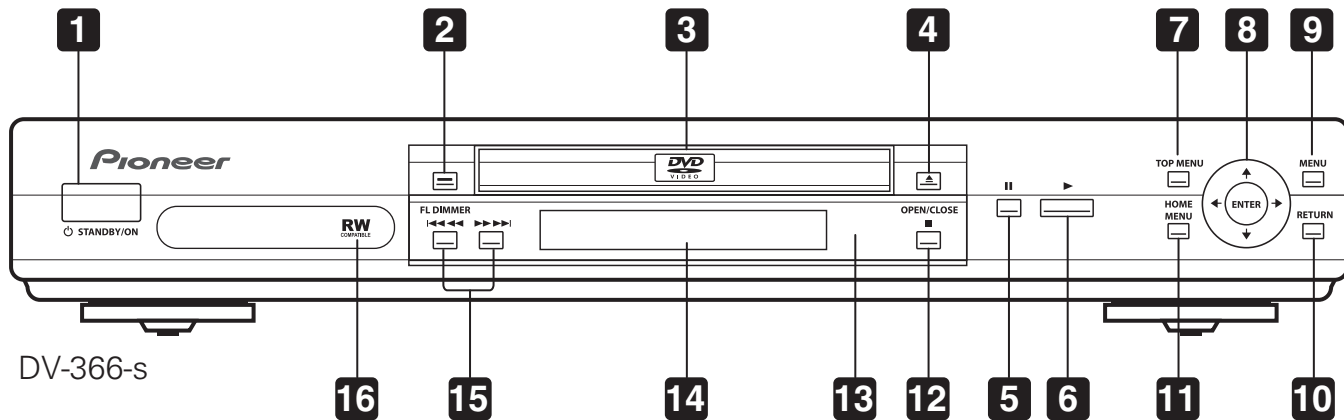


Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

8. PANEL FACILITIES

Front panel



1 STANDBY/ON

Press to switch the player on or into standby.

2 FL DIMMER

Press to dim or brighten the display.

3 Disc tray

4 OPEN/CLOSE

Press to open or close the disc tray.

5 II

Press to pause playback. Press again to restart.

6 ►

Press to start or resume playback.

7 TOP MENU

Press to display the top menu of a DVD disc.

8 ENTER& cursor buttons

Use to navigate on-screen displays and menus. Press **ENTER** to select an option or execute a command.

9 MENU

Press to display a DVD disc menu, or the Disc Navigator if a VR format DVD-RW, CD, Video CD/Super VCD, MP3, WMA or JPEG disc is loaded.

10 RETURN

Press to return to a previous menu screen.

11 HOME MENU

Press to display (or exit) the on-screen display.

12 ■

Press to stop the disc (you can resume playback by pressing ► (play)).

13 Remote control sensor

The remote control has a range of up to about 7m.

14 Display

See page 19 for a description of the display.

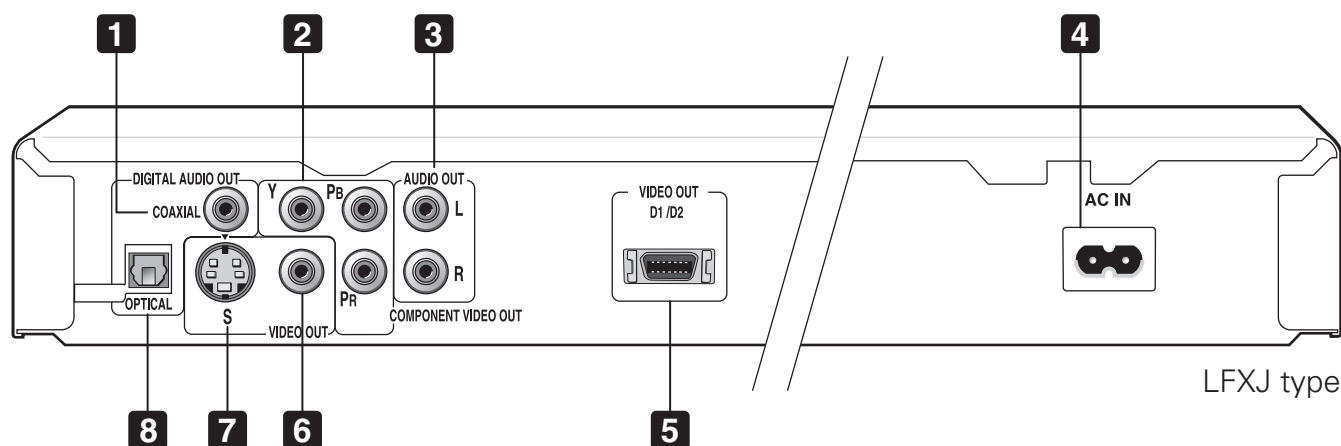
15 ◀◀◀◀ and ▶▶▶▶

- Press and hold for fast reverse/forward scanning.
- Press to jump to the previous/next chapter or track.

16 RW COMPATIBLE

This mark indicates compatibility with DVD-RW discs recorded on a DVD recorder in Video Recording mode.

Rear panel connections



1 DIGITAL AUDIO OUT – COAXIAL

This is a digital audio output for connection to a PCM, Dolby Digital, DTS and/or MPEG-compatible AV receiver that has a coaxial digital input.

Connect using a commercially available coaxial digital audio cable.

2 COMPONENT VIDEO OUT

This is a high quality video output for connection to a TV, monitor or AV receiver that has component video inputs.

Connect using a commercially available three-way component video cable. Be careful to match the colors of the jacks and cables for correct connection.

3 AUDIO OUT L / R

This pair of analog audio outputs connects to your TV, AV receiver or stereo system. Even if you are connecting up one of the digital outputs, we still recommend you connect these jacks.

Use the supplied audio/video cable when connecting these jacks. Match the colors of the jacks and cables for correct stereo sound.

4 AC IN

Connect the supplied power cable here, then plug into a power outlet.

5 VIDEO OUT D1/D2 (LFXJ type only)

Use to connect this player to a TV with a D video input.

6 VIDEO OUT

This is a standard video output that you can connect to your TV or AV receiver using the supplied audio/video cable.

7 S (S-video output)

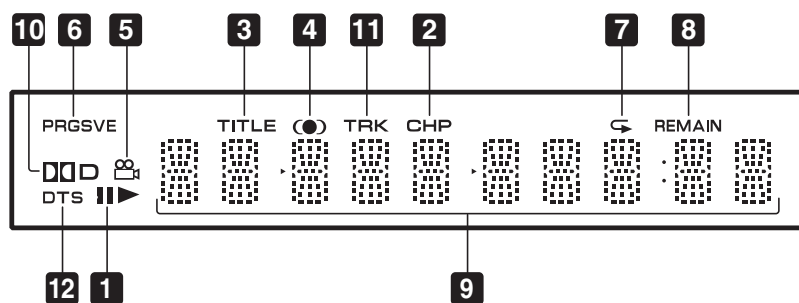
This is an S-video output that you can use instead of the video output described in 5 above.

8 DIGITAL AUDIO OUT – OPTICAL

This is a digital audio output for connection to a PCM, Dolby Digital, DTS and/or MPEG-compatible AV receiver that has an optical digital input.

Connect using a commercially available optical digital audio cable.

Display



DV-366-s

1 II and ►

Indicates whether a disc is playing or paused.

2 CHP

Indicates that the character display is showing a DVD chapter number.

3 TITLE

Indicates that the character display is showing a DVD title number.

4 (●)

Lights when DTS/SRS TruSurround is selected.

5 00

Lights during multi-angle scenes on a DVD disc.

6 PRGSVE

Lights when the player is set to output progressive scan video.

7 ↺

Lights in any of the repeat play modes.

8 REMAIN

Indicates that the character display is showing the disc or title/chapter/track remain time.

9 Character display

10 DD D

Lights when a Dolby Digital soundtrack is playing.

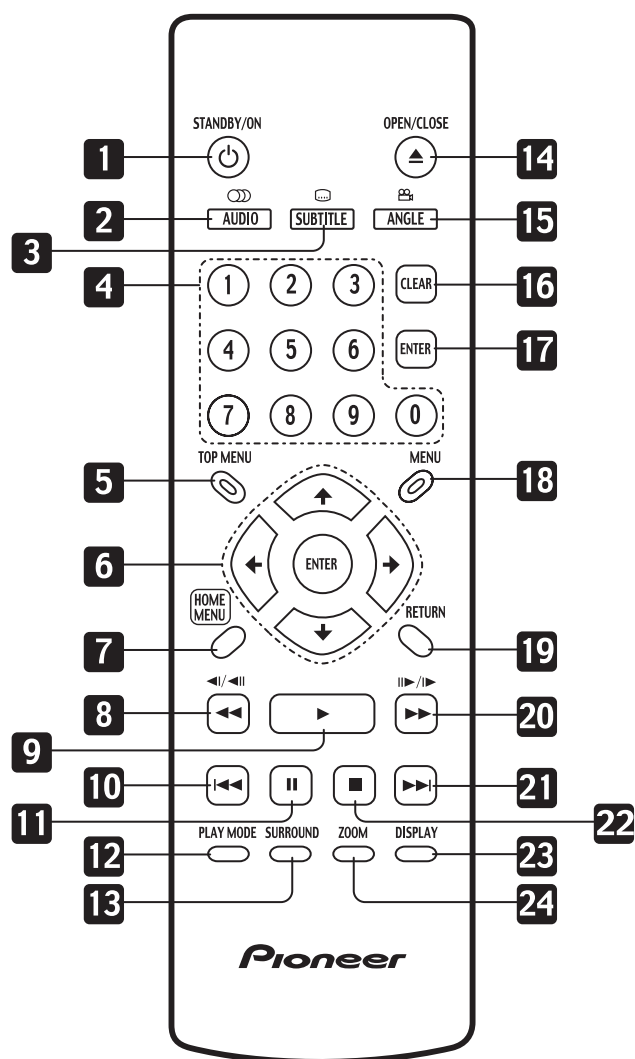
11 TRK

Indicates that the character display is showing a CD or Video CD/Super VCD track number.

12 DTS

Lights when a DTS soundtrack is playing.

Remote control



1 STANDBY/ON

Press to switch the player on or into standby.

2 AUDIO

Press to select the audio channel or language.

3 SUBTITLE

Press to select a subtitle display.

4 Number buttons

5 TOP MENU

Press to display the top menu of a DVD disc.

6 ENTER & cursor buttons

Use to navigate on-screen displays and menus. Press **ENTER** to select an option or execute a command.

7 HOME MENU

Press to display (or exit) the on-screen display.

8 and /

Use for reverse slow motion playback, frame reverse and reverse scanning.

9

Press to start or resume playback.

10

Press to jump to the beginning of the current chapter or track, then to previous chapters/tracks.

11

Press to pause playback; press again to restart.

12 PLAY MODE

Press to display the Play Mode menu. (You can also get to the Play Mode menu by pressing **HOME MENU** and selecting Play Mode).

13 SURROUND

Press to activate/switch off **DOLBY**/SRS TruSurround.

14 ▲ OPEN/CLOSE

Press to open or close the disc tray.

15 ANGLE

Press to change the camera angle during DVD multi-angle scene playback.

16 CLEAR

Press to clear a numeric entry.

17 ENTER

Use to select menu options, etc. (works exactly the same as the **ENTER** button in **6** above).

18 MENU

Press to display a DVD disc menu, or the Disc Navigator if a VR format DVD-RW, CD, Video CD, MP3, WMA or JPEG disc is loaded.

19 RETURN

Press to return to a previous menu screen.

20 ►► and I►/II►

Use for forward slow motion playback, frame advance and forward scanning.

21 ►►I

Press to jump to the next chapter or track.

22 ■

Press to stop the disc (you can resume playback by pressing ► (play)).

23 DISPLAY

Press to display information about the disc playing.

24 ZOOM

Press to change the zoom level.